

***Euphorbia* diterpenoids: isolation, structure, bioactivity, biosynthesis, and synthesis (2013–2021)**

Zha-jun Zhan^a, Shen Li^b, Wang Chu^a, Sheng Yin^{b*}

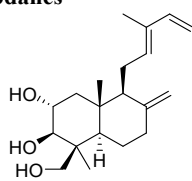
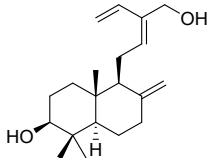
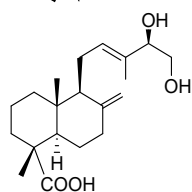
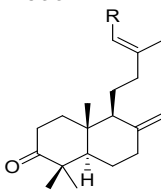
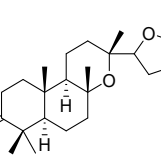
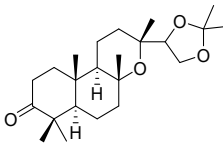
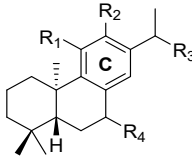
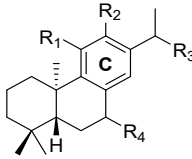
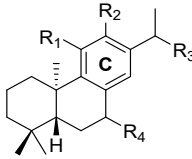
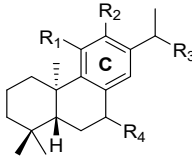
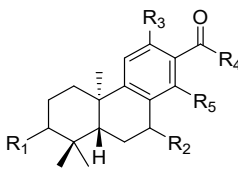
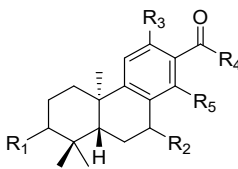
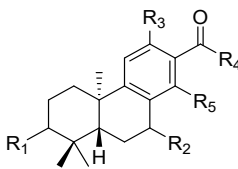
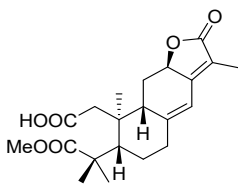
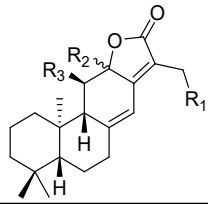
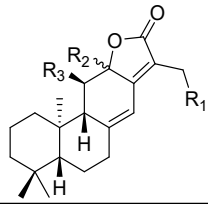
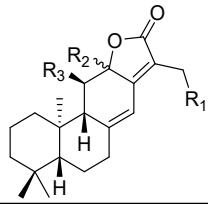
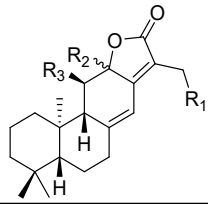
^aCollege of Pharmaceutical Science, Zhejiang University of Technology, Hangzhou, P. R. China

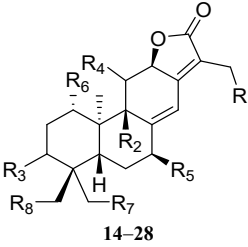
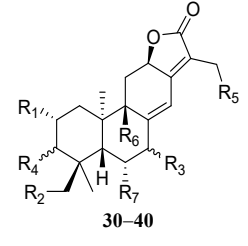
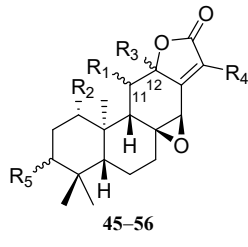
^bSchool of Pharmaceutical Sciences, Sun Yat-sen University, Guangzhou 510006, P. R. China.

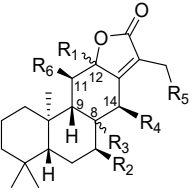
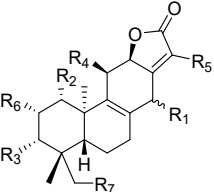
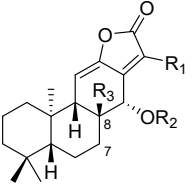
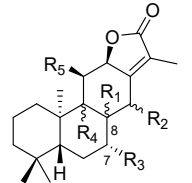
Tel/Fax: +86-20-39943090. Email: yinsh2@mail.sysu.edu.cn.

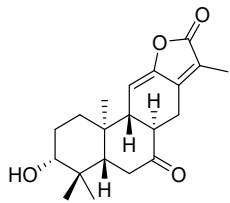
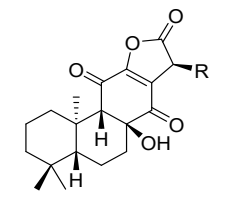
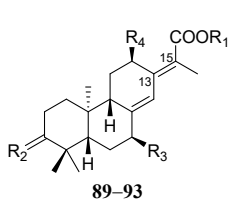
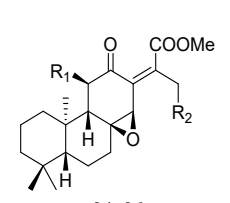
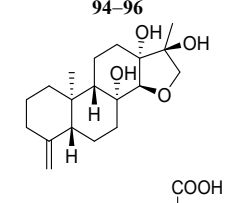
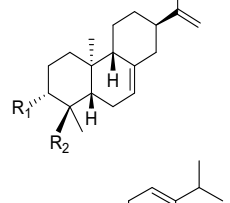
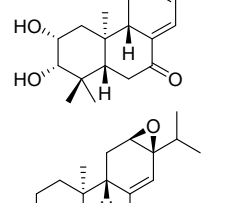
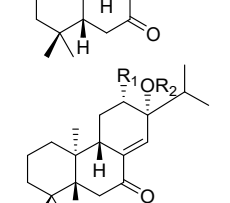
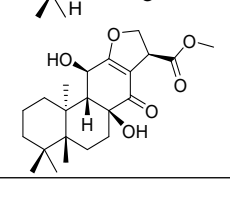


| Content | Page |
|--|-------------|
| Table S1 Structures, origin, and bioactivities of higher diterpenoids | 2 |
| Table S2 Structures, origin, and bioactivities of lower diterpenoids | 14 |
| Fig. S1 Structures of known compounds used in the review | 39 |
| Fig. S2 Structural abbreviations used in synthesis part | 41 |

Table 1 Structures, origin, and bioactivities of higher diterpenoids

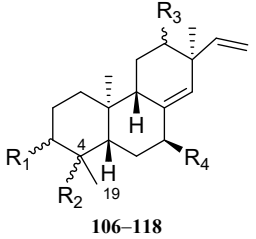
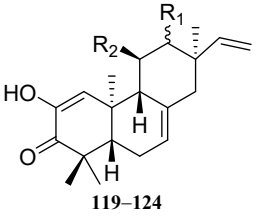
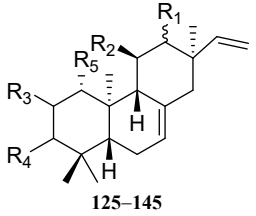
| structure | compounds ^b (synonyms) | origin ^a | bioactivity ^a |
|---|---|--------------------------------------|---------------------------------|
| Labdanes | | | |
|  | 1 - - | <i>E. rapulum</i> ⁸⁴ | - |
|  | 2 - - | <i>E. yinshanica</i> ⁸⁵ | - |
|  | 3 - - | <i>E. yinshanica</i> ⁸⁵ | - |
|  | 4 - R = CH ₂ OAc | <i>E. antiqorum</i> ⁴³ | anti-inflammation ⁴³ |
|  | 5 - R = CHO | <i>E. antiqorum</i> ⁴³ | anti-inflammation ⁴³ |
|  | 6 - - | <i>E. antiqorum</i> ⁴³ | anti-inflammation ⁴³ |
| Abietanes | | | |
|  | 7 - R ₁ = R ₂ = R ₄ = H; R ₃ = CH ₂ OH | <i>E. guyoniana</i> ⁴⁵ | - |
|  | 8 - R ₁ = OH; R ₂ = R ₄ = H; R ₃ = CH ₂ OH | <i>E. guyoniana</i> ⁴⁵ | - |
|  | 9 - R ₁ = R ₂ = OH; R ₃ = CO ₂ Me; R ₄ = O= | <i>E. guyoniana</i> ⁴⁵ | - |
|  | 10 - R ₁ = R ₂ = H; R ₃ = O=; R ₄ = βOH | <i>E. pekinensis</i> ⁴⁶ | - |
|  | 11 euphorfischerin A R ₁ = R ₂ = R ₄ = H; R ₃ = R ₅ = OH | <i>E. fischeriana</i> ⁴⁷ | cytotoxicity ⁴⁷ |
|  | 12 - R ₁ = R ₂ = O=; R ₃ = R ₅ = H; R ₄ = Me | <i>E. usambarica</i> ⁴⁸ | - |
|  | 13 - R ₁ = βOH; R ₂ = O=; R ₃ = R ₅ = H; R ₄ = Me | <i>E. usambarica</i> ⁴⁸ | - |
|  | 29 difischenoid B - | <i>E. fischeriana</i> ⁹⁴ | cytotoxicity ⁹⁴ |
|  | 41 ebractenoid N R ₁ = H; R ₂ = βOMe; R ₃ = OH | <i>E. ebracteolata</i> ⁹⁶ | anti-inflammation ⁹⁶ |
|  | 42 - R ₁ = R ₃ = OH; R ₂ = βOMe | <i>E. wallichii</i> ⁹⁷ | anti-bacteria ⁹⁷ |
|  | 43 fischeriabietane D R ₁ = OH; R ₂ + R ₃ = O | <i>E. fischeriana</i> ⁵³ | - |
|  | 44 7-deoxylanguin B R ₁ = R ₂ = R ₃ = OH | <i>E. fischeriana</i> ⁹² | - |

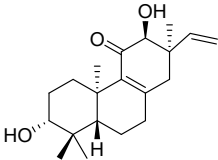
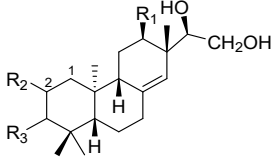
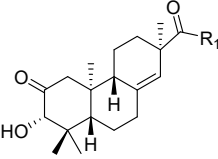
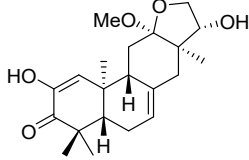
| | | | | | |
|---|----|--|--|---------------------------------------|---------------------------------------|
|  <p>14–28</p> | 14 | jolkinolide F ^b | $R_1 = R_3 = R_4 = R_5 = R_6 = R_7 = R_8 = H; R_2 = OH$ | <i>E. jolkini</i> ⁸⁶ | cytotoxicity ⁸⁶ |
| | 15 | stracheyoid C | $R_1 = OH; R_2 = R_3 = R_4 = R_5 = R_6 = R_7 = R_8 = H$ | <i>E. stracheyi</i> ⁸⁷ | cytotoxicity ⁸⁷ |
| | 16 | - | $R_1 = R_2 = R_4 = R_5 = R_6 = R_7 = R_8 = H; R_3 = OOCH$ | <i>E. lunulata</i> ⁴⁹ | antitumor ⁸⁸ |
| | 17 | fischeriolide C ^b | $R_1 = R_2 = R_3 = R_6 = R_7 = R_8 = H; R_4 = \beta OH; R_5 = OH$ | <i>E. fischeriana</i> ⁸⁹ | anti-inflammation ⁸⁹ |
| | 18 | euphycoplenoid B | $R_1 = R_4 = R_5 = R_6 = R_7 = R_8 = H; R_2 = OH; R_3 = \beta OH$ | <i>E. helioscopia</i> ⁹⁰ | - |
| | 19 | eupneria A | $R_1 = R_2 = R_3 = R_5 = R_7 = R_8 = H; R_4 = \alpha OH; R_6 = OH$ | <i>E. neriifolia</i> ⁹¹ | - |
| | 20 | eupneria B | $R_1 = R_2 = R_3 = R_4 = R_7 = R_8 = H; R_5 = R_6 = OH$ | <i>E. neriifolia</i> ⁹¹ | - |
| | 21 | eupneria C | $R_1 = R_2 = R_3 = R_4 = R_5 = R_8 = H; R_6 = R_7 = OH$ | <i>E. neriifolia</i> ⁹¹ | - |
| | 22 | eupneria D | $R_1 = R_3 = R_4 = R_5 = R_7 = R_8 = H; R_2 = R_6 = OH$ | <i>E. neriifolia</i> ⁹¹ | - |
| | 23 | eupneria E | $R_1 = R_2 = R_4 = R_5 = R_7 = R_8 = H; R_3 = \beta OH; R_6 = OH$ | <i>E. neriifolia</i> ⁹¹ | - |
| | 24 | euphorantone B – euphonoid F' | $R_1 = R_2 = R_3 = R_4 = R_5 = R_7 = R_8 = H; R_6 = O=$ | <i>E. antiqorum</i> ^{42,52} | anti-osteoclastogenesis ⁴² |
| | 25 | 11 α ,17-dihydroxyhelioscopinolide E | $R_1 = OH; R_2 = R_3 = R_6 = R_7 = R_8 = H; R_3 = O=; R_4 = \alpha OH$ | <i>E. fischeriana</i> ⁹² | - |
| | 26 | 6 β ,11 α ,17-trihydroxy helioscopinolide E | $R_1 = R_5 = OH; R_2 = R_6 = R_7 = R_8 = H; R_3 = O=; R_4 = \alpha OH$ | <i>E. fischeriana</i> ⁹² | - |
| | 27 | - | $R_1 = R_2 = R_3 = R_4 = R_5 = R_7 = R_8 = H; R_6 = OAc$ | <i>E. royleana</i> ⁹³ | anti-inflammation ⁹³ |
| 28 | - | $R_1 = R_2 = R_3 = R_4 = R_5 = R_7 = H; R_6 = R_8 = OH$ | <i>E. royleana</i> ⁹³ | - | |
|  <p>30–40</p> | 30 | eupheliolide A ^b | $R_1 = R_2 = OH; R_3 = R_5 = R_6 = R_7 = H; R_4 = \alpha OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 31 | eupheliolide B | $R_1 = OH; R_2 = R_3 = R_6 = R_7 = H; R_3 = \beta OH; R_4 = \alpha OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 32 | eupheliolide C | $R_1 = OH; R_2 = R_5 = R_6 = R_7 = H; R_3 = R_4 = \alpha OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 33 | eupheliolide D | $R_1 = R_2 = R_3 = R_7 = H; R_4 = \alpha OH; R_5 = R_6 = OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 34 | eupheliolide E | $R_1 = R_2 = R_3 = R_7 = H; R_4 = \beta OH; R_5 = R_6 = OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 35 | eupheliolide F | $R_1 = R_3 = R_5 = R_7 = H; R_2 = R_6 = OH; R_4 = \alpha OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 36 | eupheliolide G | $R_1 = R_2 = R_3 = R_5 = H; R_4 = \alpha OH; R_6 = R_7 = OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 37 | eupheliolide H | $R_1 = R_2 = R_3 = R_5 = H; R_4 = O=; R_6 = R_7 = OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 38 | eupheliolide I | $R_1 = O=; R_2 = OH; R_4 = \alpha OH; R_3 = R_5 = R_6 = R_7 = H$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 39 | eupheliolide J | $R_1 = O=; R_2 = R_3 = R_5 = H; R_4 = \alpha OH; R_6 = R_7 = OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
| | 40 | eupheliolide K | $R_1 = O=; R_2 = R_3 = R_7 = H; R_4 = \alpha OH; R_5 = R_6 = OH$ | <i>E. helioscopia</i> ⁹⁵ | - |
|  <p>45–56</p> | 45 | - ^b | $R_1 = \beta OH; R_2 = R_5 = H; R_3 = \alpha H; R_4 = Me$ | <i>E. fischeriana</i> ⁹⁸ | cytotoxicity ⁹⁸ |
| | 46 | euphopilolide | $R_1 = R_2 = R_5 = H; R_3 = \alpha H; R_4 = Me$ | <i>E. pilosa</i> ⁹⁹ | - |
| | 47 | - | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Me; R_5 = \alpha OH$ | <i>E. usambarica</i> ⁴⁸ | - |
| | 48 | eurifoloid F | $R_1 = H; R_2 = OH; R_3 = \alpha H; R_4 = Me; R_5 = H$ | <i>E. neriifolia</i> ⁷¹ | anti-HIV ⁷¹ |
| | 49 | eurifoloid G | $R_1 = H; R_2 = OAc; R_3 = \alpha H; R_4 = Me; R_5 = H$ | <i>E. neriifolia</i> ⁷¹ | - |
| | 50 | ebracteolata D | $R_1 = \beta OH; R_2 = R_5 = H; R_3 = \alpha OMe; R_4 = Me$ | <i>E. ebracteolata</i> ¹⁰⁰ | - |
| | 51 | euphorfischerin E | $R_1 = \beta OH; R_2 = R_5 = H; R_3 = \beta OMe; R_4 = Me$ | <i>E. fischeriana</i> ⁴⁷ | - |
| | 52 | - | $R_1 + R_3 = OCH_2O; R_2 = R_5 = H; R_4 = CH_2OH$ | <i>E. fischeriana</i> ¹⁰¹ | - |
| | 53 | fischeriabetane E | $R_1 = \beta OH; R_2 = R_5 = H; R_3 = \beta OMe; R_4 = CH_2OH$ | <i>E. fischeriana</i> ⁵³ | - |
| | 54 | euphonoid B | $R_2 = R_5 = H; R_4 = CHO; \Delta^{11}$ | <i>E. fischeriana</i> ⁵¹ | - |
| | 55 | - | $R_2 = H; R_4 = Me; R_5 = O=; \Delta^{11}$ | <i>E. fischeriana</i> ⁴⁷ | - |
| | 56 | euphorfinoid L | $R_2 = H; R_4 = Me; R_5 = \beta OH; \Delta^{11}$ | <i>E. fischeriana</i> ¹⁰² | acetylcholinesterase ¹⁰² |

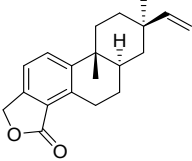
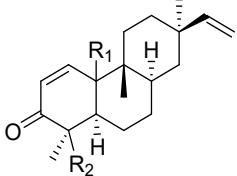
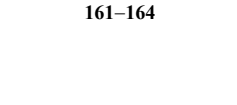
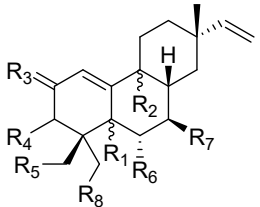
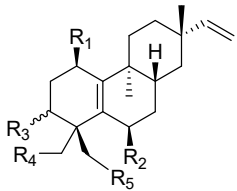
| | | | | | |
|--|--|---|---|--|--|
|  <p>57–63</p> | 57 | eupholide A | $R_1 = \beta\text{OMe}; R_2 = \text{H}; R_3 = \alpha\text{OH}; R_4 = R_5 = R_6 = \text{OH}$ | <i>E. fischeriana</i> ¹⁰³ | - |
| | 58 | eupholide B | $R_1 = \beta\text{OMe}; R_2 = \text{H}; R_3 = \alpha\text{OMe}; R_4 = R_5 = R_6 = \text{OH}$ | <i>E. fischeriana</i> ¹⁰³ | carboxylesterase 2 inhibition ¹⁰³ |
| | 59 | eupholide C | $R_1 = \beta\text{OMe}; R_2 = R_3 = R_6 = \text{OH}; \Delta^{8(14)}$ | <i>E. fischeriana</i> ¹⁰³ | carboxylesterase 2 inhibition ¹⁰³ |
| | 60 | eupholide D | $R_1 = \beta\text{OMe}; R_2 = \text{OMe}; R_3 = R_6 = \text{OH}; \Delta^{8(14)}$ | <i>E. fischeriana</i> ¹⁰³ | carboxylesterase 2 inhibition ¹⁰³ |
| | 61 | eupholide E | $R_1 = \beta\text{OH}; R_2 = \text{OMe}; R_3 = R_6 = \text{OH}; \Delta^{8(14)}$ | <i>E. fischeriana</i> ¹⁰³ | carboxylesterase 2 inhibition ¹⁰³ |
| | 62 | eupholide F ^b | $R_2 = R_5 = \text{H}; R_3 = \beta\text{OH}; R_4 = \text{O}=\; \Delta^{11}$ | <i>E. fischeriana</i> ¹⁰³ | carboxylesterase 2 inhibition ¹⁰³ |
| | 63 | eupholide G | $R_1 = \alpha\text{H}; R_2 = R_5 = R_6 = \text{H}; R_4 = \text{O}=\; \Delta^{8(9)}$ | <i>E. fischeriana</i> ¹⁰³ | carboxylesterase 2 inhibition ¹⁰³ |
| | 64 | piscatolide | $R_1 = \beta\text{OH}; R_2 = R_4 = R_6 = R_7 = \text{H}; R_3 = \text{OH}; R_5 = \text{Me}$ | <i>E. piscatoria</i> ¹⁰⁴ | - |
| | 65 | euphelioscopnoid N | $R_1 = \beta\text{OH}; R_2 = R_4 = R_6 = R_7 = \text{H}; R_3 = \text{OAc}; R_5 = \text{Me}$ | <i>E. helioscopia</i> ¹⁰⁵ | - |
| |  <p>64–76</p> | 66 | eurifoloid C | $R_1 = \beta\text{OH}; R_2 = \text{OH}; R_3 = R_4 = R_6 = R_7 = \text{H}; R_5 = \text{Me}$ | <i>E. neriiifolia</i> ⁷¹ |
| 67 | | eurifoloid D | $R_1 = \alpha\text{OH}; R_2 = \text{OH}; R_3 = R_4 = R_6 = R_7 = \text{H}; R_5 = \text{Me}$ | <i>E. neriiifolia</i> ⁷¹ | - |
| 68 | | eurifoloid E | $R_1 = \alpha\text{OAc}; R_2 = \text{OH}; R_3 = R_4 = R_6 = R_7 = \text{H}; R_5 = \text{Me}$ | <i>E. neriiifolia</i> ⁷¹ | anti-HIV ⁷¹ |
| 69 | | ebractenoid K | $R_1 = \beta\text{OH}; R_2 = R_3 = R_6 = R_7 = \text{H}; R_4 = \text{OH}; R_5 = \text{Me}$ | <i>E. ebracteolata</i> ⁹⁶ | anti-inflammation ⁹⁶ |
| 70 | | euphorin F fischeriolide D ebractenoid L euphorin G fischeriolide B | $R_1 = \text{O}=\; R_2 = R_3 = R_6 = R_7 = \text{H}; R_4 = \text{OH}; R_5 = \text{Me}$ | <i>E. fischeriana</i> ⁶² <i>E. fischeriana</i> ⁸⁹ <i>E. ebracteolata</i> ⁹⁶ <i>E. fischeriana</i> ⁶² <i>E. fischeriana</i> ⁸⁹ | anti-inflammation ⁹⁶ |
| 71 | | euphcopenoid A | $R_1 = \beta\text{OH}; R_2 = R_4 = R_6 = R_7 = \text{H}; R_3 = \text{O}=\; R_5 = \text{Me}$ | <i>E. helioscopia</i> ⁹⁰ | - |
| 72 | | - | $R_1 = \text{O}=\; R_2 = R_3 = R_6 = R_7 = \text{H}; R_4 = \text{OH}; R_5 = \text{CHO}$ | <i>E. wallichii</i> ⁹⁷ | anti-bacteria ⁹⁷ |
| 73 | | eupneria F | $R_1 = \text{O}=\; R_2 = \text{OH}; R_3 = R_4 = R_6 = R_7 = \text{H}; R_5 = \text{Me}$ | <i>E. neriiifolia</i> ^{91,106} | - |
| 74 | | euphelionolide L | $R_1 = \beta\text{OH}; R_2 = R_4 = R_7 = \text{H}; R_3 = R_6 = \text{OH}; R_5 = \text{Me}$ | <i>E. helioscopia</i> ⁹⁵ | cytotoxicity ⁹⁵ |
| 75 | | euphelionolide M | $R_1 = \beta\text{OH}; R_2 = R_4 = R_6 = \text{H}; R_3 = R_7 = \text{OH}; R_5 = \text{Me}$ | <i>E. helioscopia</i> ⁹⁵ | - |
| 76 | euphelionolide N | $R_1 = \text{O}=\; R_2 = R_4 = R_6 = \text{H}; R_3 = R_7 = \text{OH}; R_5 = \text{Me}$ | <i>E. helioscopia</i> ⁹⁵ | - | |
|  <p>77–79</p> | 77 | euphonoid A ^b | $R_1 = R_2 = \text{Me}; R_3 = \text{OH}$ | <i>E. fischeriana</i> ⁵¹ | cytotoxicity ⁵¹ |
| | 78 | - | $R_1 = \text{CHO}; R_2 = \text{H}; \Delta^7$ | <i>E. wallichii</i> ⁹⁷ | anti-bacteria ⁹⁷ |
| | 79 | euphoroid B | $R_1 = \text{Me}; R_2 = \text{H}; \Delta^7$ | <i>E. ebracteolata</i> ¹⁰⁷ | cytotoxicity ¹⁰⁷ |
|  <p>80–85</p> | 80 | ebractenoid M euphorin E fischeriolide A | $R_2 = \beta\text{OH}; R_3 = \text{H}; R_4 = \beta\text{H}; R_5 = \text{OH}; \Delta^7$ | <i>E. ebracteolata</i> ⁹⁶ <i>E. fischeriana</i> ⁶² <i>E. fischeriana</i> ⁸⁹ | anti-inflammation ⁹⁶ |
| | 81 | euphoroid A | $R_2 = \beta\text{OH}; R_3 = \text{H}; R_4 = \alpha\text{H}; R_5 = \text{OH}; \Delta^7$ | <i>E. ebracteolata</i> ¹⁰⁷ | - |
| | 82 | euphoroid C | $R_1 = \alpha\text{OH}; R_2 = \beta\text{OLin}; R_3 = \text{H}; R_4 = \beta\text{H}; R_5 = \text{OH}$ | <i>E. ebracteolata</i> ¹⁰⁷ | cytotoxicity ¹⁰⁷ |
| | 83 | 7 α -hydroxy-8 α ,14-dihydrojolknilolide E | $R_1 = \alpha\text{H}; R_2 = \beta\text{OH}; R_3 = \text{OH}; R_4 = \beta\text{H}; R_5 = \text{H}$ | <i>E. peplus</i> ¹⁰⁸ | - |
| | 84 | ebractenoid Q | $R_1 = \alpha\text{OH}; R_2 = \beta\text{OMAC}; R_3 = \text{H}; R_4 = \beta\text{H}; R_5 = \text{OH}$ | <i>E. ebracteolata</i> ⁵⁰ | anti-inflammation ⁵⁰ |
| 85 | 11-oxo-ebracteolatan olide B | $R_1 = \beta\text{OH}; R_2 = \alpha\text{OH}; R_3 = \text{H}; R_4 = \beta\text{H}; R_5 = \text{O}=\;$ | <i>E. fischeriana</i> ⁹² | - | |

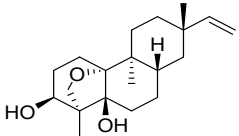
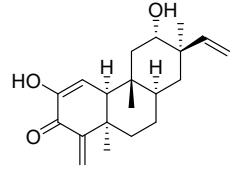
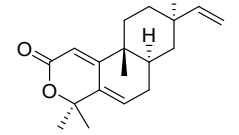
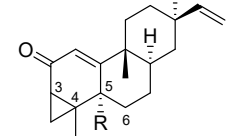
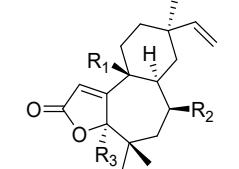
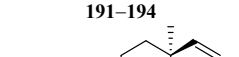
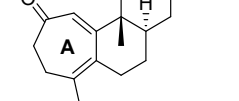
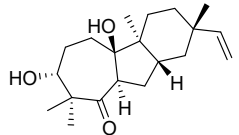
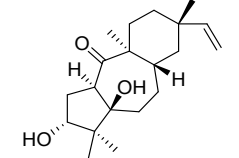
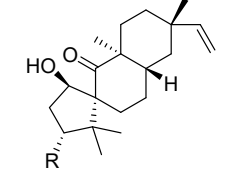
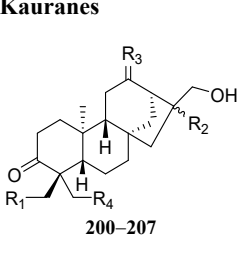
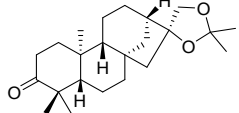
| | | | | | |
|---|-----|------------------------------|---|--|--|
|  | 86 | - | - | <i>E. peplus</i> ¹⁰⁸ | - |
|  | 87 | difischenoid C | R = Me | <i>E. fischeriana</i> ⁹⁴ | cytotoxicity ⁹⁴ |
|  | 88 | difischenoid D | R = H | <i>E. fischeriana</i> ⁹⁴ | cytotoxicity ⁹⁴ |
|  | 89 | piscatoric acid | R ₁ = R ₃ = H; R ₂ = O=; R ₄ = H | <i>E. piscatoria</i> ¹⁰⁴ | - |
|  | 90 | euphpane B | R ₁ = Me; R ₂ = 2H; R ₃ = H; R ₄ = H | <i>E. pekinensis</i> ⁸¹ | cytotoxicity ⁸¹ |
|  | 91 | euphorfischerin D | R ₁ = Me; R ₂ = 2H; R ₃ = H; R ₄ = OMe | <i>E. fischeriana</i> ⁴⁷ | cytotoxicity ⁴⁷ |
|  | 92 | fischeriabietane A | R ₁ = Me; R ₂ = 2H; R ₃ = OH; R ₄ = H | <i>E. fischeriana</i> ^{51,53} | - |
|  | 93 | euphonoid C | R ₁ = Me; R ₂ = 2H; R ₃ = OH; R ₄ = H; Z-Δ ¹³⁽¹⁵⁾ | <i>E. fischeriana</i> ⁵¹ | - |
|  | 94 | euphorin H | R ₁ = OH; R ₂ = H | <i>E. fischeriana</i> ⁶² | inhibit mammosphere formation ⁶² |
|  | 95 | fischeriabietane B | R ₁ = R ₂ = H | <i>E. fischeriana</i> ⁵³ | cytotoxicity ⁵³ |
|  | 96 | fischeriabietane C | R ₁ = R ₂ = OH | <i>E. fischeriana</i> ⁵³ | cytotoxicity ⁵³ |
| | 97 | lathyrisol A ^b | - | <i>E. lathyris</i> ⁵⁴ | - |
| | 98 | fischerianoid A ^b | R ₁ = OH R ₂ = CH ₂ OH | <i>E. fischeriana</i> ⁵⁵ | - |
| | 99 | fischerianoid B | R ₁ = OH R ₂ = CHO | <i>E. fischeriana</i> ⁵⁵ | cytotoxicity ⁵⁵ |
| | 100 | fischerianoid C | R ₁ + R ₂ = OC(Me) ₂ OCH ₂ | <i>E. fischeriana</i> ⁵⁵ | cytotoxicity ⁵⁵ |
| | 101 | - | - | <i>E. thymifolia</i> ¹⁰⁹ | - |
| | 102 | euphonoid D | - | <i>E. fischeriana</i> ⁵¹ | - |
| | 103 | eupholide H | R ₁ = OH; R ₂ = H | <i>E. fischeriana</i> ¹⁰³ | carboxylesterase 2 inhibition ¹⁰³ |
| | 104 | euphorfischerin C | R ₁ = H; R ₂ = Me | <i>E. fischeriana</i> ⁴⁷ | cytotoxicity ⁴⁷ |
| | 105 | difischenoid A ^b | - | <i>E. fischeriana</i> ⁹⁴ | cytotoxicity ⁹⁴ |

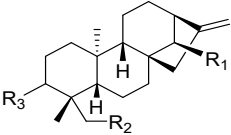
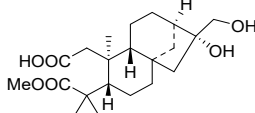
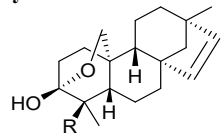
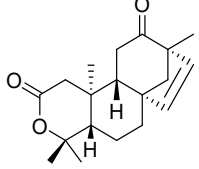
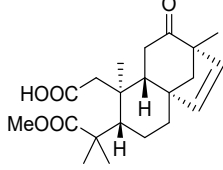
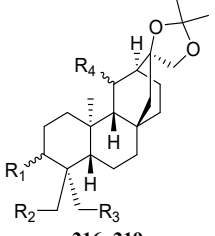
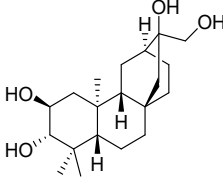
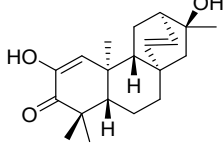
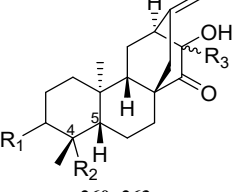
Isopimaranes

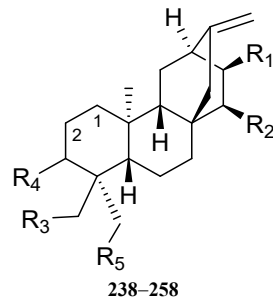
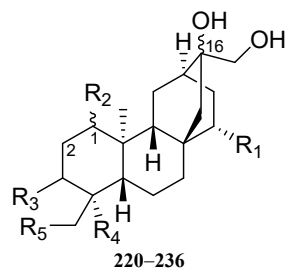
| | | | | | |
|---|------------|--|--|---|--|
|  <p>106–118</p> | 106 | eurifoloid H | $R_1 = R_3 = \alpha\text{OH}; R_2 = \beta\text{CH}_2\text{OAc}; R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁷¹ | anti-HIV |
| | 107 | eurifoloid I | $R_1 = R_3 = \alpha\text{OH}; R_2 = \beta\text{CH}_2\text{OH}; R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁷¹ | - |
| | 108 | eurifoloid J | $R_1 = \alpha\text{OAc}; R_2 = \beta\text{CHO}; R_3 = \alpha\text{OH}; R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁷¹ | - |
| | 109 | eurifoloid K | $R_1 = \alpha\text{OAc}; R_2 = \beta\text{CO}_2\text{H}; R_3 = \alpha\text{OH}; R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁷¹ | - |
| | 110 | eurifoloid L | $R_1 = \alpha\text{OAc}; R_2 = \beta\text{CH}_3; R_3 = \alpha\text{OH}; R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁷¹ | - |
| | 111 | altavnlol A | $R_1 = R_3 = \beta\text{OH}; R_2 = \beta\text{CH}_3; R_4 = \text{OH}$ | <i>E. alataavica</i> ⁵⁸ | cytotoxicity ⁵⁸ |
| | 112 | - | $R_1 = \alpha\text{OH}; R_2 = R_3 = \beta\text{OH}; R_4 = \text{H}$ | <i>E. royleana</i> ⁹³ | - |
| | 113 | eupneria J ^b | $R_1 = \alpha\text{OH}; R_2 = \beta\text{OH}; R_3 = R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁵⁶ | anti-HIV; anti-influenza ⁵⁶ |
| | 114 | eupneria K | $R_1 = R_3 = \alpha\text{OH}; R_2 = \beta\text{H}; R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁵⁶ | - |
| | 115 | eupneria L | $R_1 = R_3 = \alpha\text{OH}; R_4 = \text{H}; \Delta^{4(19)}$ | <i>E. neriiifolia</i> ⁵⁶ | - |
| 116 | eupneria M | $R_1 = R_2 = R_3 = \alpha\text{OH}; R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁵⁶ | - | |
| 117 | eupneria N | $R_1 = \alpha\text{OH}; R_2 = \beta\text{CH}_2\text{OH}; R_3 = \text{H}; R_4 = \text{OMe}$ | <i>E. neriiifolia</i> ⁵⁶ | - | |
| 118 | eupneria O | $R_1 = \alpha\text{OAc}; R_2 = \beta\text{CH}_2\text{OH}; R_3 = \alpha\text{OH}; R_4 = \text{H}$ | <i>E. neriiifolia</i> ⁵⁶ | - | |
|  <p>119–124</p> | 119 | - | $R_1 = \alpha\text{OH}; R_2 = \text{H}$ | <i>E. pekinensis</i> ⁴⁶ ; <i>E. jolkini</i> ⁶⁷ ; <i>E. hylonoma</i> ⁵⁷ | - |
| | 120 | - | $R_1 = R_2 = \text{H}$ | <i>E. pekinensis</i> ⁴⁶ | - |
| | 121 | - | $R_1 = \alpha\text{OH}; R_2 = \text{OH}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 122 | - | $R_1 = \beta\text{OH}; R_2 = \text{OH}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 123 | - | $R_1 = \text{O}=\text{; } R_2 = \text{H}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 124 | euphopane A | $R_1 = \text{O}=\text{; } R_2 = \text{OH}$ | <i>E. pekinensis</i> ⁸¹ | cytotoxicity ⁸¹ |
|  <p>125–145</p> | 125 | - | $R_1 = R_3 = \text{O}=\text{; } R_2 = \text{OH}; R_5 = \text{H}; R_4 = \alpha\text{OH}$ | <i>E. pekinensis</i> ⁴⁶ | - |
| | 126 | altavnlol B | $R_1 = \beta\text{OH}; R_2 = \text{OH}; R_3 = R_5 = \text{H}; R_4 = \text{O}=\text{}$ | <i>E. alataavica</i> ⁵⁸ ; <i>E. hylonoma</i> ⁵⁷ | - |
| | 127 | altavnlol C | $R_1 = \alpha\text{OH}; R_2 = \text{OH}; R_3 = R_5 = \text{H}; R_4 = \text{O}=\text{}$ | <i>E. alataavica</i> ⁵⁸ ; <i>E. hylonoma</i> ⁵⁷ | - |
| | 128 | - ^b | $R_1 = \alpha\text{OH}; R_2 = \text{OH}; R_3 = \text{O}=\text{; } R_4 = \alpha\text{OH}; R_5 = \text{H}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 129 | - ^b | $R_1 = \beta\text{OH}; R_2 = \text{OH}; R_3 = \text{O}=\text{; } R_4 = \alpha\text{OH}; R_5 = \text{H}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 130 | - | $R_1 = \beta\text{OH}; R_2 = \text{OH}; R_3 = R_5 = \text{H}; R_4 = \alpha\text{OH}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 131 | - | $R_1 = R_3 = \beta\text{OH}; R_2 = \text{OH}; R_4 = \text{O}=\text{; } R_5 = \text{H}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 132 | - ^b | $R_1 = \text{O}=\text{; } R_2 = \text{OH}; R_3 = R_4 = \alpha\text{OH}; R_5 = \text{H}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 133 | - | $R_1 = \text{O}=\text{; } R_2 = R_5 = \text{H}; R_3 = \alpha\text{OH}; R_4 = \alpha\text{OH}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 134 | - | $R_1 = \text{O}=\text{; } R_2 = R_3 = R_5 = \text{H}; R_4 = \alpha\text{OH}$ | <i>E. hylonoma</i> ⁵⁷ | phytotoxicity ⁵⁷ |
| | 135 | - | $R_1 = \text{O}=\text{; } R_2 = \text{OH}; R_3 = R_5 = \text{H}; R_4 = \alpha\text{OH}$ | <i>E. hylonoma</i> ⁵⁷ | - |
| | 136 | - | $R_1 = \alpha\text{OH}; R_2 = R_5 = \text{H}; R_3 = \text{O}=\text{; } R_4 = \alpha\text{OH}$ | <i>E. jolkini</i> ⁶⁷ | - |
| | 137 | - | $R_1 = \alpha\text{OH}; R_2 = R_3 = R_5 = \text{H}; R_4 = \alpha\text{OH}$ | <i>E. jolkini</i> ⁶⁷ | - |
| | 138 | - ^b | $R_1 = R_3 = \alpha\text{OH}; R_2 = R_5 = \text{H}; R_4 = \alpha\text{OH}$ | <i>E. hylonoma</i> ¹¹⁰ | - |
| | 139 | euphorbesulin P | $R_1 = \beta\text{OH}; R_2 = R_5 = \text{H}; R_3 = \alpha\text{OH}; R_4 = \alpha\text{OH}$ | <i>E. hylonoma</i> ¹¹⁰ ; <i>E. esula</i> ¹¹¹ | anti-inflammation ¹¹⁰ |
| 140 | - | $R_1 + R_2 = \text{O}; R_3 = \alpha\text{OH}; R_4 = \alpha\text{OH}; R_5 = \text{H}$ | <i>E. hylonoma</i> ¹¹⁰ | - | |

| | | | | | |
|---|------------|---------------------|--|---|--|
| | 141 | - | $R_1 = R_3 = \beta\text{OH}; R_2 = R_5 = \text{H}; R_4 = \text{O}=\text{}$ | <i>E. hylonoma</i> ¹¹⁰ | - |
| | 142 | - | $R_1 = R_4 = \alpha\text{OH}; R_2 = \text{H}; R_3 + R_5 = \text{O}$ | <i>E. hylonoma</i> ¹¹⁰ | - |
| | 143 | - | $R_1 = \alpha\text{OH}; R_2 = \text{H}; R_4 = \beta\text{OH}; R_3 + R_5 = \text{O}$ | <i>E. hylonoma</i> ¹¹⁰ | - |
| | 144 | - | $R_1 = \beta\text{OH}; R_2 = \text{H}; R_3 = R_4 = \alpha\text{OH}; R_5 = \text{OH}$ | <i>E. hylonoma</i> ¹¹⁰ | - |
| | 145 | - | $R_1 = R_4 = \beta\text{OH}; R_2 = \text{H}; R_3 = \alpha\text{OH}; R_5 = \text{OH}$ | <i>E. hylonoma</i> ¹¹⁰ | - |
|  | 146 | - | - | <i>E. hylonoma</i> ¹¹⁰ | - |
|  | 147 | - | $R_1 = \text{OH}; R_2 = R_3 = \text{H}$ | <i>E. fischeriana</i> ¹¹² | α -glucosidase inhibitor ¹¹² |
| | 148 | euphorfinoid F | $R_1 = \text{H}; R_2 = \text{OH}; R_3 = \text{O}=\text{}; \Delta^1$ | <i>E. fischeriana</i> ¹⁰² | - |
|  | 149 | euphorfinoid G | $R = \text{CH}_2\text{OH}$ | <i>E. fischeriana</i> ¹⁰² | - |
| | 150 | euphorfinoid H | $R = \text{OH}$ | <i>E. fischeriana</i> ¹⁰² | - |
|  | 151 | - ^b | - | <i>E. hylonoma</i> ¹¹⁰ | - |
| Rosanes | | | | | |
| | 152 | euphebracteolatin A | $R_1 = R_2 = R_3 = \text{H}; R_4 = \text{OH}$ | <i>E. ebracteolata</i> ^{59,60} | anti-inflammation ⁶⁰ |
| | 153 | ebractenoid F | $R_1 = R_2 = \text{H}; R_3 = \beta\text{OH}; R_4 = \text{OH}$ | <i>E. ebracteolata</i> ⁶⁰ | anti-inflammation ⁶⁰ |
| | 154 | ebraphenol A | $R_1 = R_2 = R_3 = R_4 = \text{H}; \Delta^6$ | <i>E. ebracteolata</i> ⁶¹ | lipase inhibitor ⁶¹ |
| | 155 | ebraphenol B | $R_1 = R_3 = R_4 = \text{H}; R_2 = \text{OMe}$ | <i>E. ebracteolata</i> ⁶¹ | - |
| | 156 | ebraphenol C | $R_1 = R_2 = R_3 = R_4 = \text{H}$ | <i>E. ebracteolata</i> ⁶¹ | - |
| | 157 | euphorfischerin B | $R_1 = \text{OH}; R_2 = R_3 = R_4 = \text{H}$ | <i>E. fischeriana</i> ⁴⁷ | cytotoxicity ⁴⁷ |
| | 158 | ebraphenol D | $R_1 = \text{OH}; R_2 = R_3 = R_4 = \text{H}$ | <i>E. ebracteolata</i> ⁶¹ | - |
| | 159 | euphorin C | $R_2 = \text{O}=\text{}; R_3 = \beta\text{OH}; R_4 = \text{OH}; \Delta^7$ | <i>E. fischeriana</i> ⁶² | - |
| | 159 | ebraphenol E | $R_1 = R_2 = R_4 = \text{H}; R_3 = \alpha\text{OMe}$ | <i>E. ebracteolata</i> ¹¹³ | lipase inhibitor ¹¹³ |

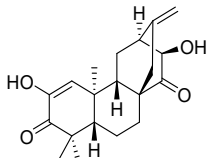
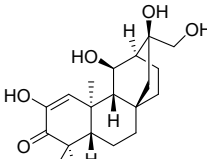
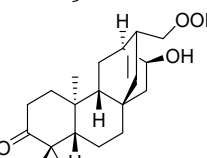
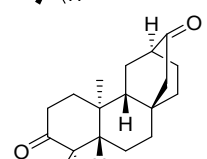
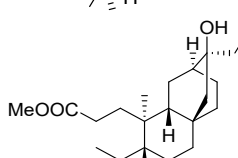
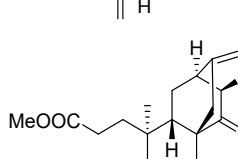
| | | | | | |
|---|-----|--|--|---------------------------------------|----------------------------------|
|  | 160 | ebractone A | - | <i>E. ebracteolata</i> ⁶¹ | - |
|  | 161 | ebractenoid H | R ₁ = αOH; R ₂ = CH ₂ OH | <i>E. ebracteolata</i> ⁶⁰ | anti-inflammation ⁶⁰ |
| | 162 | euphorin B | | <i>E. fischeriana</i> ⁶² | |
| | 163 | ebractenoid I | R ₁ = βOH; R ₂ = CH ₂ OH | <i>E. ebracteolata</i> ⁶⁰ | anti-inflammation ⁶⁰ |
| | 164 | euphorin A | R ₁ = αOH; R ₂ = Me | <i>E. fischeriana</i> ⁶² | - |
|  | 164 | ebractenoid Q | R ₁ = βOH; R ₂ = H | <i>E. ebracteolata</i> ⁶⁴ | anti-tuberculosis ⁶⁴ |
| | 165 | euphebracteolatin B | R ₁ = βH; R ₂ = βMe; R ₃ = 2H; R ₄ = αOH; R ₅ = R ₇ = R ₈ = H; R ₆ = OH | <i>E. ebracteolata</i> ⁵⁹ | - |
| | 166 | ebractenoid C | R ₁ = αH; R ₂ = βMe; R ₃ = 2H; R ₄ = βOH; R ₅ = OH; R ₆ = R ₇ = R ₈ = H | <i>E. ebracteolata</i> ⁶⁰ | anti-inflammation ⁶⁰ |
| | 167 | ebractenoid D | R ₁ = αH; R ₂ = βMe; R ₃ = 2H; R ₄ = βOH; R ₅ = R ₆ = R ₈ = H; R ₇ = OH | <i>E. ebracteolata</i> ⁶⁰ | anti-inflammation ⁶⁰ |
|  | 168 | ebractenoid E | R ₁ = αH; R ₂ = βCH ₂ OH; R ₃ = 2H R ₄ = βOH; R ₅ = R ₆ = R ₇ = R ₈ = H | <i>E. fischeriana</i> ⁹⁸ | anti-inflammation ⁶⁰ |
| | 169 | euphorpekone A 5- <i>epi</i> -euphominoid J | R ₁ = βOH; R ₂ = αMe; R ₃ = O; R ₄ = R ₅ = R ₆ = R ₇ = R ₈ = H | <i>E. ebracteolata</i> ⁶⁰ | anti-inflammation ⁶⁰ |
| | 170 | euphorpekone B | R ₁ = βOH; R ₂ = βMe; R ₃ = O; R ₄ = R ₅ = R ₆ = R ₇ = R ₈ = H | <i>E. hylonoma</i> ¹¹⁰ | anti-inflammation ¹¹⁰ |
| | 171 | ebracteolata A | R ₁ = αH; R ₂ = βMe; R ₃ = 2H; R ₄ = O=; R ₅ = OH; R ₆ = R ₇ = R ₈ = H | <i>E. pekinensis</i> ¹¹⁴ | - |
| | 172 | ebracteolata B | R ₁ = αH; R ₂ = βCHO; R ₃ = 2H; R ₄ = βOH; R ₅ = R ₆ = R ₇ = R ₈ = H | <i>E. pekinensis</i> ¹¹⁴ | - |
| | 173 | - ^b | R ₁ = αH; R ₂ = αMe; R ₃ = O; R ₄ = R ₅ = R ₆ = R ₇ = R ₈ = H | <i>E. ebracteolata</i> ¹¹⁶ | cytotoxicity ¹¹⁶ |
| | 174 | euphominoid J | R ₁ = αOH; R ₂ = αMe; R ₃ = O; R ₄ = R ₅ = R ₆ = R ₇ = R ₈ = H | <i>E. ebracteolata</i> ¹¹⁶ | - |
| | 175 | euphominoid K | R ₁ = αOH; R ₂ = αMe; R ₃ = O; R ₄ = R ₅ = R ₆ = R ₇ = H; R ₈ = OH | <i>E. hylonoma</i> ¹¹⁰ | anti-inflammation ¹¹⁰ |
| | 176 | euphominoid L | R ₁ = αOH; R ₂ = αMe; R ₃ = O; R ₄ = R ₅ = R ₆ = R ₇ = R ₈ = H | <i>E. mili</i> ¹¹⁵ | antivirus ¹¹⁵ |
| | 176 | euphominoid L | R ₁ = αOH; R ₂ = αMe; R ₃ = O; R ₄ = R ₆ = R ₇ = R ₈ = H; R ₅ = OH | <i>E. mili</i> ¹¹⁵ | - |
|  | 177 | euphominoid A ^b | R ₁ = R ₂ = R ₅ = H; R ₃ = O=; R ₄ = OH | <i>E. mili</i> ¹¹⁵ | antivirus ¹¹⁵ |
| | 178 | euphominoid B | R ₁ = R ₂ = R ₅ = H; R ₃ = αOH; R ₄ = OH | <i>E. mili</i> ¹¹⁵ | antivirus ¹¹⁵ |
| | 179 | euphominoid C | R ₁ = R ₂ = R ₄ = H; R ₃ = βOH; R ₅ = OH | <i>E. mili</i> ¹¹⁵ | antivirus ¹¹⁵ |
| | 180 | euphominoid D | R ₁ = R ₂ = H; R ₃ + R ₄ = O; R ₅ = H | <i>E. mili</i> ¹¹⁵ | - |
| | 181 | euphominoid E | R ₁ = O=; R ₂ = R ₄ = R ₅ = H; R ₃ = αOH | <i>E. mili</i> ¹¹⁵ | - |
| | 182 | euphominoid F | R ₁ = R ₄ = R ₅ = H; R ₂ = O=; R ₃ = αOH | <i>E. mili</i> ¹¹⁵ | - |
| | 183 | euphominoid G | R ₁ = R ₂ = O=; R ₃ = αOH; R ₄ = R ₅ = H | <i>E. mili</i> ¹¹⁵ | - |
| | 184 | euphominoid H | R ₁ = O=; R ₂ = βOH; R ₃ = αOH; R ₄ = R ₅ = H | <i>E. mili</i> ¹¹⁵ | - |
| | 185 | euphominoid I | R ₁ = βOH; R ₂ = O=; R ₃ = αOH; R ₄ = R ₅ = H | <i>E. mili</i> ¹¹⁵ | - |

| | | | | | |
|---|-------------------|---|--|---|---|
|  | 186 | euphomanol A ^b | - | <i>E. miltii</i> ⁶³ | - |
|  | 187 | tagalsin I | - | <i>E. rapulum</i> ⁸⁴ | cytotoxicity ⁸⁴ |
|  | 188 | ebractenoid R | - | <i>E. ebracteolata</i> ⁶⁴ | - |
|  | 189 190 | ebractenoid J ebractenoid O | 3R,4S; R = OH 3S,4R; Δ ⁵⁽⁶⁾ | <i>E. ebracteolata</i> ⁶⁰ <i>E. ebracteolata</i> ⁶⁴ | anti-inflammation ⁶⁰ - |
|  | 191 192 193 | ebractenoid A ebractenoid B euphorin D ^b | R ₁ = CH ₂ OH; R ₂ = R ₃ = H R ₁ = CH ₃ ; R ₂ = OH; R ₃ = H R ₁ = CH ₃ ; R ₂ = H; R ₃ = OH | <i>E. ebracteolata</i> ⁶⁰ <i>E. ebracteolata</i> ⁶⁰ <i>E. fischeriana</i> ⁶² | anti-inflammation ⁶⁰ anti-inflammation ⁶⁰ - |
|  | 194 | ebractenoid S | R ₁ = CHO; R ₂ = R ₃ = H | <i>E. ebracteolata</i> ⁶⁴ | - |
| 191–194 | | | | | |
|  | 195 | ebractenoid P | - | <i>E. ebracteolata</i> ⁶⁴ | - |
|  | 196 | euphomilone A ^b | - | <i>E. miltii</i> ⁶³ | anti-osteoclastogenesis ⁶³ |
|  | 197 | euphomilone B | - | <i>E. miltii</i> ⁶³ | - |
|  | 198 199 | euphnerin A ^b euphnerin B | R = OH R = H | <i>E. neriifolia</i> ⁶⁵ <i>E. neriifolia</i> ⁶⁵ | anti-inflammation ⁶⁵ - |
| Kauranes | | | | | |
|  | 200 | - | R ₁ = H; R ₂ = βOH; R ₃ = 2H; R ₄ = OH | <i>E. stracheyi</i> ¹¹⁷ | - |
| | 201 | - | R ₁ = OH; R ₂ = βOH; R ₃ = 2H; R ₄ = H | <i>E. helioscopia</i> ⁹⁵ | - |
| | 202 | - | R ₁ = H; R ₂ = βOH; R ₃ = 2H; R ₄ = OGlc | <i>E. ebracteolata</i> ⁶⁶ | - |
| | 203 | - | R ₁ = H; R ₂ = βOH; R ₃ = 2H; R ₄ = <i>O</i> -6-galloyl-Glc | <i>E. ebracteolata</i> ⁶⁶ | - |
| | 204 | - | R ₁ = H; R ₂ = αOH; R ₃ = O=; R ₄ = OGlc | <i>E. ebracteolata</i> ⁶⁶ | - |
| | 205 | - | R ₁ = H; R ₂ = βOH; R ₃ = 2H R ₄ = OMeBu | <i>E. royleana</i> ⁹³ | anti-inflammation ⁹³ |
| | 206 | - | R ₁ = H; R ₂ = βOH; R ₃ = 2H; R ₄ = OTig | <i>E. royleana</i> ⁹³ | anti-inflammation ⁹³ |
| | 207 | - | R ₁ = H; R ₂ = βOH; R ₃ = 2H; R ₄ = OBu | <i>E. antiquorum</i> ¹¹⁸ | - |
|  | 208 | - | - | <i>E. fischeriana</i> ¹¹⁹ | cytotoxicity ¹¹⁹ |

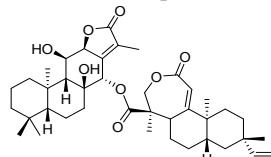
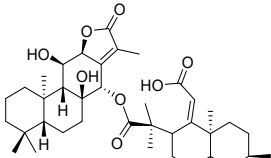
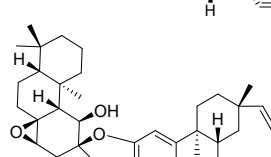
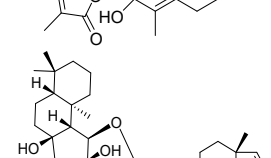
| | | | | | |
|---|-----|-----------------------------|--|---------------------------------------|--|
|  | 209 | euphonoid G | $R_1 = \text{OH}; R_2 = \text{H}; R_3 = \alpha\text{OH}$ | <i>E. fischeriana</i> ⁵¹ | - |
| | 210 | euphoroylean H ^b | $R_1 = \text{H}; R_2 = \text{OH}; R_3 = \text{O}=\text{C}$ | <i>E. royleana</i> ⁸³ | - |
|  | 211 | euphorfinoid E | - | <i>E. fischeriana</i> ¹⁰² | acetylcholinesterase inhibition ¹⁰² |
| Beyeranes | | | | | |
|  | 212 | - | $R = \text{CH}_2\text{OAc}$ | <i>E. antiquorum</i> ⁴³ | anti-inflammation ⁴³ |
| | 213 | - | $R = \text{H}$ | <i>E. antiquorum</i> ⁴³ | anti-inflammation ⁴³ |
|  | 214 | - | - | <i>E. antiquorum</i> ⁴³ | - |
|  | 215 | - ^b | - | <i>E. antiquorum</i> ⁴³ | - |
| Atisanes | | | | | |
|  | 216 | - | $R_1 = \text{O}=\text{C}; R_2 = R_3 = R_4 = \text{H}$ | <i>E. jolkini</i> ⁶⁷ | anti-HIV ⁶⁸ |
| | 217 | - | $R_1 = \text{O}=\text{C}; R_3 = \text{H}; R_2 = \text{OH}; R_4 = \beta\text{OH}$ | <i>E. neriifolia</i> ⁶⁸ | - |
| | 218 | - | $R_1 = \text{O}=\text{C}; R_3 = \text{OH}; R_2 = R_4 = \text{H}$ | <i>E. wallichii</i> ¹²⁰ | - |
| | 219 | euphomeroid D | $R_1 = \alpha\text{OH}; R_2 = R_3 = R_4 = \text{H}$ | <i>E. neriifolia</i> ⁶⁸ | anti-HIV ⁶⁸ |
| 216–219 | | | | | |
|  | 237 | euphorfinoid I | - | <i>E. ebracteolata</i> ¹¹³ | - |
|  | 259 | - | - | <i>E. antiquorum</i> ⁴³ | - |
|  | 260 | eupneria G | $R_1 = \alpha\text{OH}; R_2 = \text{H}; R_3 = \alpha\text{H}$ | <i>E. neriifolia</i> ¹²⁶ | - |
| | 261 | eurifoloid M | $R_1 = \text{O}=\text{C}; R_2 = \text{H}; R_3 = \alpha\text{H}; \Delta^{4(5)}$ | <i>E. neriifolia</i> ⁷¹ | - |
| | 262 | ebractenone A ^b | $R_1 = \alpha\text{OH}; R_2 = \text{Me}; R_3 = \beta\text{CH}_2\text{COCH}_3$ | <i>E. ebracteolata</i> ⁷⁰ | - |
| | 263 | ebractenone B | $R_1 = \text{O}=\text{C}; R_2 = \text{Me}; R_3 = \beta\text{CH}_2\text{COCH}_3$ | <i>E. ebracteolata</i> ⁷⁰ | antiviral ⁷⁰ |
| 260–263 | | | | | |

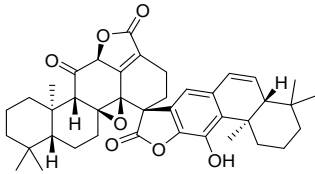
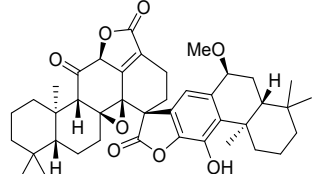
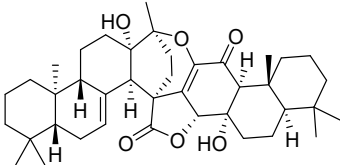
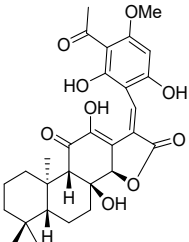
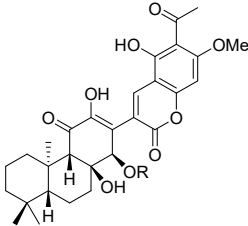
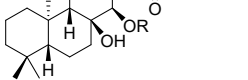
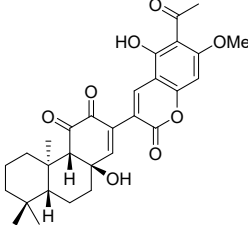
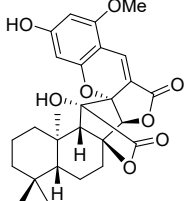


| | | | | |
|-----|-----------------------------|--|--------------------------------------|--|
| 220 | - | $R_1 = R_2 = R_5 = H; R_3 = \beta OH; R_4 = Me; 16S$ | <i>E. antiquorum</i> ¹²¹ | - |
| 221 | eurifoloid Q | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = CH_2OH; 16S$ | <i>E. nerifolia</i> ⁷¹ | - |
| 222 | eurifoloid R | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = CH_2OTig; 16S$ | <i>E. helioscopia</i> ⁹⁵ | - |
| 223 | - | $R_1 = R_5 = H; R_2 = R_3 = \alpha OH; R_4 = Me; 16R$ | <i>E. nerifolia</i> ⁷¹ | - |
| 224 | - ^b | $R_1 = R_5 = H; R_2 = \alpha OH; R_3 = \beta OH; R_4 = Me; 16R$ | <i>E. antiquorum</i> ⁶⁹ | - |
| 225 | - | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = CH_2OGlc; 16S$ | <i>E. fischeriana</i> ¹²² | cytotoxicity ¹²² |
| 226 | - | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = CH_2O-6-galloyl-Glc; 16S$ | <i>E. fischeriana</i> ¹²² | cytotoxicity ¹²² |
| 227 | - | $R_1 = R_5 = H; R_2 = \alpha OH; R_3 = \beta OAc; R_4 = Me; 16S$ | <i>E. ebracteolata</i> ⁶⁶ | - |
| 228 | - | $R_1 = R_2 = H; R_3 = \beta OAc; R_4 = Me; R_5 = OH; 16S$ | <i>E. ebracteolata</i> ⁶⁶ | carboxylesterase 2 inhibition ⁶⁶ |
| 229 | - | $R_1 = OH; R_2 = R_5 = H; R_3 = \beta OH; R_4 = Me; 16S$ | <i>E. antiquorum</i> ¹²³ | - |
| 230 | - | $R_1 = R_5 = H; R_2 = R_3 = \beta OH; R_4 = Me; 16S$ | <i>E. antiquorum</i> ¹²⁴ | α -glucosidase inhibitor ¹²⁴ |
| 231 | eupneria H | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = Me; 16S; \Delta^1$ | <i>E. antiquorum</i> ¹²⁴ | - |
| 232 | eupneria I | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = CH_2OBz; 16S$ | <i>E. antiquorum</i> ¹²⁵ | α -glucosidase inhibitor ¹²⁵ |
| 233 | euphorantone C | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = CH_2OAc; 16S$ | <i>E. nerifolia</i> ¹²⁶ | - |
| 234 | antiquorpene H | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = CH_2OPr; 16S$ | <i>E. nerifolia</i> ¹²⁶ | - |
| 235 | antiquorpene I | $R_1 = R_2 = R_5 = H; R_3 = O=; R_4 = CH_2OBu; 16S$ | <i>E. antiquorum</i> ⁴² | - |
| 236 | - | $R_1 = R_2 = R_4 = R_5 = H; R_3 = O=; 16S$ | <i>E. royleana</i> ⁹³ | anti-inflammation ⁹³ |
| 238 | eurifoloid N | $R_1 = R_2 = OH; R_3 = R_5 = H; R_4 = O=$ | <i>E. antiquorum</i> ¹¹⁸ | - |
| 239 | eurifoloid O | $R_1 = R_3 = R_5 = H; R_2 = OH; R_4 = O=$ | <i>E. antiquorum</i> ¹¹⁸ | - |
| 240 | - | $R_1 = R_3 = H; R_2 = R_4 = O=; R_5 = OGlc$ | <i>E. royleana</i> ⁹³ | - |
| 241 | - | $R_1 = R_3 = H; R_2 = R_4 = O=; R_5 = O-6-galloyl-Glc$ | <i>E. nerifolia</i> ⁷¹ | - |
| 242 | euphormeroid B | $R_1 = R_3 = OH; R_2 = O=; R_4 = \alpha OH; R_5 = H$ | <i>E. fischeriana</i> ¹²⁷ | - |
| 243 | euphormeroid C | $R_1 = R_3 = OH; R_2 = R_4 = O=; R_5 = H; \Delta^1$ | <i>E. fischeriana</i> ¹²⁷ | - |
| 244 | - | $R_1 = OH; R_2 = R_4 = O=; R_3 = H; R_5 = OGlc$ | <i>E. nerifolia</i> ⁶⁸ | - |
| 245 | - | $R_1 = OH; R_2 = R_4 = O=; R_3 = H; R_5 = O-6-galloyl-Glc$ | <i>E. nerifolia</i> ⁶⁸ | - |
| 246 | euphorin A' | $R_1 = OH; R_2 = R_4 = O=; R_3 = H; R_5 = OPr$ | <i>E. ebracteolata</i> ⁶⁶ | - |
| 247 | euphorin B' | $R_1 = R_3 = H; R_2 = R_4 = O=; R_5 = OPr$ | <i>E. ebracteolata</i> ⁶⁶ | - |
| 248 | euphonoid E ^b | $R_1 = R_3 = R_5 = H; R_2 = OH; R_4 = \alpha OH$ | <i>E. antiquorum</i> ⁶⁹ | - |
| 249 | euphonoid F | $R_1 = R_2 = R_4 = O=; R_3 = R_5 = H$ | <i>E. antiquorum</i> ⁶⁹ | - |
| 250 | euphoroylean F ^b | $R_1 = OH; R_2 = O=; R_3 = R_5 = H; R_4 = \alpha OAc$ | <i>E. fischeriana</i> ⁵¹ | - |
| 251 | euphoroylean G ^b | $R_1 = R_4 = OAc; R_2 = O=; R_3 = R_5 = H$ | <i>E. fischeriana</i> ⁵¹ | - |
| 252 | antiquorpene A | $R_1 = R_2 = R_3 = H; R_4 = O=; R_5 = OH$ | <i>E. royleana</i> ⁸³ | - |
| 253 | antiquorpene B | $R_1 = R_3 = H; R_2 = O= R_4 = O=; R_5 = OAc$ | <i>E. royleana</i> ⁸³ | - |
| 254 | antiquorpene C | $R_1 = R_3 = H; R_2 = R_4 = O=; R_5 = OBU$ | <i>E. antiquorum</i> ¹¹⁸ | - |
| 255 | antiquorpene D | $R_1 = R_3 = H; R_2 = R_4 = O=; R_5 = OTig$ | <i>E. antiquorum</i> ¹¹⁸ | - |
| 256 | antiquorpene E | $R_1 = OH; R_2 = R_4 = O=; R_3 = H; R_5 = OAc$ | <i>E. antiquorum</i> ¹¹⁸ | - |
| 257 | antiquorpene F | $R_1 = OH; R_2 = R_4 = O=; R_3 = H; R_5 = OBU$ | <i>E. antiquorum</i> ¹¹⁸ | - |
| 258 | antiquorpene G | $R_1 = OH; R_2 = R_4 = O=; R_3 = H; R_5 = OTig$ | <i>E. antiquorum</i> ¹¹⁸ | - |

| | | | | | |
|--|-----|-----------------------|---|---------------------------------------|---|
|  | 264 | euphorfinoid J | - | <i>E. ebracteolata</i> ¹¹³ | - |
|  | 265 | euphorfinoid K | - | <i>E. ebracteolata</i> ¹¹³ | - |
|  | 266 | myrsatisane | - | <i>E. myrsinites</i> ¹²⁸ | - |
|  | 267 | eurifoloid P | - | <i>E. nerifolia</i> ⁷¹ | - |
|  | 268 | 3-methyl-agallochol C | - | <i>E. nerifolia</i> ⁷² | - |
|  | 269 | euphorneroid A | - | <i>E. nerifolia</i> ⁶⁸ | - |

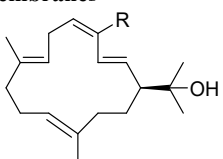
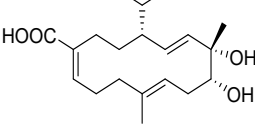
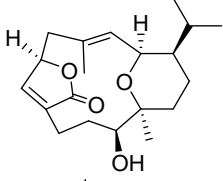
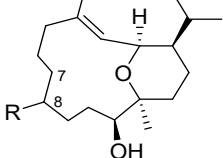
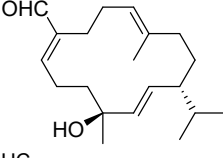
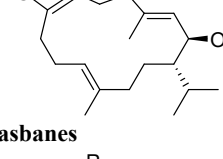
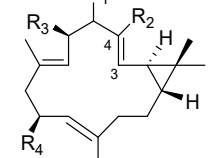
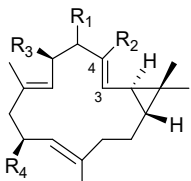
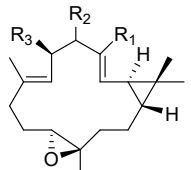
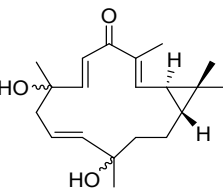
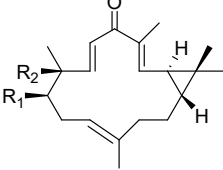
Dimers and Meroditerpenoids

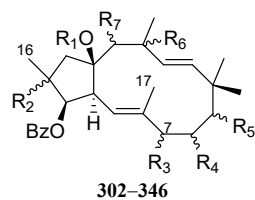
| | | | | |
|---|-----|---------------------------------|--------------------------------------|--|
|  | 270 | bisebracteolasin A ^b | <i>E. ebracteolata</i> ⁷³ | cytotoxicity; anti-metastasis ⁷³ |
|  | 271 | bisebracteolasin B | <i>E. ebracteolata</i> ⁷³ | cytotoxicity ⁷³ |
|  | 272 | eupractenoid A | <i>E. ebracteolata</i> ⁷⁴ | α -glucosidase inhibitor ⁷⁴ |
|  | 273 | eupractenoid B | <i>E. ebracteolata</i> ⁷⁴ | α -glucosidase inhibitor ⁷⁴ |

| | | | | |
|---|---|--------|--|---------------------------------|
|  | 274 bisfischoid A | | <i>E. fischeriana</i> ⁷⁵ | anti-inflammation ⁷⁵ |
|  | 275 bisfischoid B | | <i>E. fischeriana</i> ⁷⁵ | anti-inflammation ⁷⁵ |
|  | 276 fischdiabetane A ^b | | <i>E. fischeriana</i> ⁷⁶ | cytotoxicity ⁷⁶ |
|  | 277 fischernolide A ^b | | <i>E. fischeriana</i> ⁷⁸ | cytotoxicity ⁷⁸ |
|  | 278 fischernolide B euphoractone ^b | R = H | <i>E. fischeriana</i> ^{77,78} | cytotoxicity ⁷⁷ |
|  | 279 fischernolide C | R = Me | <i>E. fischeriana</i> ⁷⁸ | cytotoxicity ⁷⁸ |
|  | 280 fischernolide D | | <i>E. fischeriana</i> ⁷⁸ | cytotoxicity ⁷⁸ |
|  | 281 fischeriana A ^b | | <i>E. fischeriana</i> ⁷⁹ | cytotoxicity ⁷⁹ |

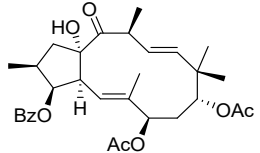
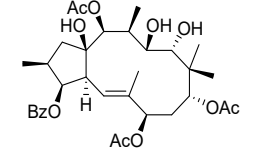
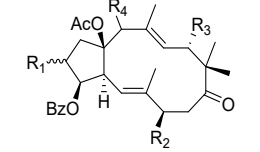
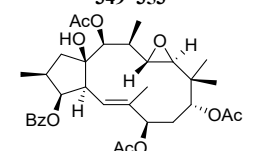
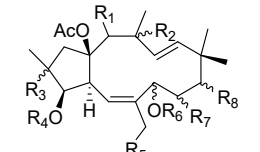
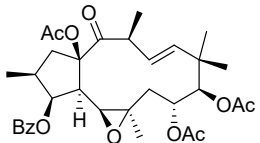
^areferences ^bstructures confirmed by single crystal X-ray diffractions

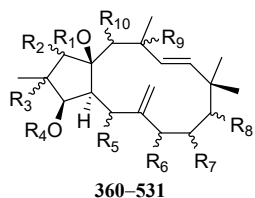
Table 2 Structures, origin, and bioactivities of lower diterpenoids

| structure | compounds ^b (synonyms) | origin ^a | bioactivity ^a | |
|---|---|---|---|---|
| Cembranes | | | | |
|  | 282 - 283 euphpane C | R = CO ₂ H R = CHO | <i>E. pekinensis</i> ⁴⁰ <i>E. pekinensis</i> ⁸¹ | cytotoxicity ⁴⁰ ; nephrotoxicity ⁸⁰ - |
|  | 284 altotibetin E | - | <i>E. altotibetica</i> ⁸² | - |
|  | 285 quorumolide A ^b | - | <i>E. antiquorum</i> ⁴¹ | - |
|  | 286 quorumolide B ^b 287 quorumolide C | R = CO ₂ H; Δ ⁷ R = CHO; Δ ⁷ | <i>E. antiquorum</i> ⁴¹ <i>E. antiquorum</i> ⁴¹ | - - |
|  | 288 euphorantone A | R = O= | <i>E. royleana</i> ⁸³ <i>E. antiquorum</i> ⁴² | anti-osteoclastogenesis ⁴² |
|  | 289 euphorylean A ^b | - | <i>E. royleana</i> ⁸³ | - |
|  | 290 euphorylean B | - | <i>E. royleana</i> ⁸³ | - |
| Casbanes | | | | |
|  | 291 pekinenin C 292 pekinenin F 293 macroricasbalone C | R ₁ = αOH; R ₂ = CHO; R ₃ = R ₄ = H R ₁ = R ₃ = R ₄ = H; R ₂ = CHO; <i>E</i> -Δ ³ R ₁ = O=; R ₂ = Me; R ₃ = R ₄ = OH | <i>E. pekinensis</i> ¹²⁹ <i>E. pekinensis</i> ¹²⁹ <i>E. macrorrhiza</i> ¹⁶⁰ | cytotoxicity ²¹³ cytotoxicity ¹²⁹ - |
|  | 294 pekinenin D 295 pekinenin E 296 pekinenin G 297 macroricasbalone A 298 macroricasbalone B | R ₁ = CHO; R ₂ = αOH; R ₃ = H R ₁ = CO ₂ H; R ₂ = αOH; R ₃ = H R ₁ = CH ₂ OH; R ₂ = O=; R ₃ = H R ₁ = Me; R ₂ = O=; R ₃ = H R ₁ = Me; R ₂ = O=; R ₃ = OH | <i>E. pekinensis</i> ¹²⁹ <i>E. pekinensis</i> ¹²⁹ <i>E. pekinensis</i> ²¹⁴ <i>E. macrorrhiza</i> ¹⁶⁰ <i>E. macrorrhiza</i> ¹⁶⁰ | cytotoxicity ¹²⁹ cytotoxicity ¹²⁹ cytotoxicity ²¹⁴ - MDR reverser ¹⁶⁰ |
|  | 299 - | - | <i>E. rapulum</i> ²¹⁵ | - |
|  | 300 1- <i>epi</i> -9-hydroxy-depressin 301 1- <i>epi</i> -8-hydroxy-depressin | R ₁ = OH; R ₂ = H R ₁ = H; R ₂ = OH | <i>E. rapulum</i> ⁸⁴ <i>E. rapulum</i> ⁸⁴ | - - |
| Jatrophanes | | | | |

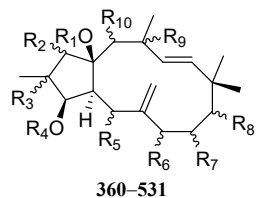


| | | | | |
|-----|--------------------------------|--|--|---|
| 302 | - | $R_1 = \text{Ac}; R_2 = R_6 = \alpha\text{H}; R_3 = \alpha\text{OAc}; R_4 = \text{H}; R_5 = \beta\text{OAc}; R_7 = \beta\text{OH}$ | <i>E. helioscopia</i> ²¹⁶ | - |
| 303 | euphoscopoid A ^b | $R_1 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \beta\text{OH}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \beta\text{H}; R_7 = \beta\text{OAc}$ | <i>E. helioscopia</i> ^{134,217} | antifeedant ²¹⁷ |
| 304 | euphoscopoid B | $R_1 = R_4 = \text{H}; R_2 = \alpha\text{H}; R_3 = \beta\text{OAc}; R_5 = \alpha\text{OAc}; R_6 = \alpha\text{H}; R_7 = \text{O}^-$ | <i>E. helioscopia</i> ²¹⁷ | antifeedant; cytotoxicity ²¹⁷ |
| 305 | euphoheliosnoid E | $R_1 = \text{Ac}; R_2 = \beta\text{H}; R_3 = \beta\text{ONic}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \alpha\text{H}; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ²¹⁸ | anti-microbial ²¹⁸ |
| 306 | euphorpin A | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OMeBu}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹⁴³ | - |
| 307 | euphorpin B | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OBu}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹⁴³ | - |
| 308 | euphorpin C | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OSal}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹⁴³ | - |
| 309 | helioscopianoid A ^b | $R_1 = R_4 = \text{H}; R_2 = \beta\text{H}; R_3 = \beta\text{OH}; R_5 = \text{O}^-; R_6 = \alpha\text{H}; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 310 | helioscopianoid B ^b | $R_1 = \text{Ac}; R_2 = \beta\text{H}; R_3 = \beta\text{OH}; R_4 = \text{H}; R_5 = R_7 = \alpha\text{OAc}; R_6 = \alpha\text{H}$ | <i>E. helioscopia</i> ¹³⁰ | neuroprotection ¹³⁰ |
| 311 | helioscopianoid C | $R_1 = R_4 = \text{H}; R_2 = \alpha\text{OH}; R_3 = R_7 = \beta\text{OAc}; R_5 = \alpha\text{OAc}; R_6 = \alpha\text{H}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 312 | helioscopianoid D | $R_1 = \text{Ac}; R_2 = R_6 = \alpha\text{H}; R_3 = R_5 = \text{O}^-; R_4 = \text{H}; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 313 | helioscopianoid E | $R_1 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = R_7 = \beta\text{OAc}; R_4 = \text{H}; R_5 = \text{O}^-; 17\text{-OH}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 314 | helioscopianoid G ^b | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = R_5 = R_7 = \text{O}^-; R_4 = \text{H}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 315 | helioscopianoid H | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OBu}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁰ | neuroprotection; MDR reverser ¹³⁰ |
| 316 | helioscopianoid I | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OMeBu}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 317 | helioscopianoid J | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OSal}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 318 | helioscopianoid K | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OMSal}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 319 | helioscopianoid L | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OBz}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}; 16\text{-OH}$ | <i>E. helioscopia</i> ¹³⁰ | neuroprotection ¹³⁰ |
| 320 | helioscopianoid N | $R_1 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \beta\text{OAc}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \beta\text{H}; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 321 | helioscopianoid O | $R_1 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \beta\text{OH}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \beta\text{H}; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 322 | helioscopianoid P | $R_1 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = R_7 = \text{O}^-; R_4 = \text{H}; R_5 = \alpha\text{OAc}; R_6 = \beta\text{H}$ | <i>E. helioscopia</i> ¹³⁰ | MDR reverser ¹³⁰ |
| 323 | euphorbiapene A ^b | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}; Z\text{-}\Delta^7$ | <i>E. helioscopia</i> ²¹⁹ | - |
| 324 | euphorbiapene B | $R_1 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \beta\text{OBz}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \beta\text{H}; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ²¹⁹ | anti-inflammation ²¹⁹ |
| 325 | euphorbiapene C | $R_1 = R_4 = \text{H}; R_2 = \beta\text{H}; R_3 = \beta\text{OAc}; R_5 = \text{O}^-; R_6 = \alpha\text{H}; R_7 = \beta\text{OAc}$ | <i>E. helioscopia</i> ²¹⁹ | anti-inflammation ²¹⁹ |
| 326 | euphorbiapene D ^b | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OBz}; R_4 = \text{H}; R_5 = R_7 = \text{O}^-$ | <i>E. helioscopia</i> ^{134,219} | anti-inflammation ²¹⁹ |
| 327 | euphoscopoid E ^b | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹³⁴ | - |
| 328 | euphoscopoid F ^b | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OBz}; R_4 = \text{H}; R_5 = R_7 = \text{O}^-$ | <i>E. helioscopia</i> ¹³⁴ | - |
| 329 | 2- <i>epi</i> -euphormin I | $R_1 = \text{Ac}; R_2 = \beta\text{H}; R_3 = \beta\text{OH}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \alpha\text{H}; R_7 = \alpha\text{OAc}$ | <i>E. helioscopia</i> ¹⁴⁹ | - |
| 330 | <i>b</i> | $R_1 = \text{Ac}; R_2 = \beta\text{H}; R_3 = \beta\text{OBz}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \alpha\text{H}; R_7 = \alpha\text{OAc}$ | <i>E. lunulata</i> ⁴⁹ | cytotoxicity ⁴⁹ |
| 331 | euphosquamosin A | $R_1 = \text{Ac}; R_2 = \beta\text{H}; R_3 = \beta\text{OAc}; R_4 = \beta\text{OH}; R_5 = R_7 = \alpha\text{OAc}; R_6 = \alpha\text{H}$ | <i>E. squamosa</i> ²²⁰ | fungus MDR ²²⁰ |
| 332 | <i>b</i> | $R_1 = R_4 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = \beta\text{OTig}; R_5 = \alpha\text{OAc}; R_7 = \beta\text{OAc}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 333 | - | $R_1 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = \beta\text{OTig}; R_4 = R_7 = \beta\text{OAc}; R_5 = \alpha\text{OAc}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 334 | - | $R_1 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = R_7 = \beta\text{OTig}; R_4 = \beta\text{OAc}; R_5 = \alpha\text{OAc}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 335 | - | $R_1 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = \beta\text{OH}; R_4 = \beta\text{OAc}; R_5 = \alpha\text{OAc}; R_7 = \beta\text{OTig}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 336 | - | $R_1 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = \beta\text{OH}; R_4 = R_7 = \beta\text{OAc}; R_5 = \alpha\text{OAc}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 337 | - | $R_1 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = R_4 = \beta\text{OAc}; R_5 = \alpha\text{OAc}; R_7 = \beta\text{OAc}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 338 | - | $R_1 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = R_7 = \beta\text{OAc}; R_4 = \beta\text{OH}; R_5 = \alpha\text{OH}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 339 | - | $R_1 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = R_4 = \beta\text{OH}; R_5 = \alpha\text{OH}; R_7 = \beta\text{OAc}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 340 | - | $R_1 = \text{Ac}; R_2 = R_6 = \alpha\text{H}; R_3 = R_4 = \beta\text{OAc}; R_5 = \alpha\text{OAc}; R_7 = \beta\text{OH}$ | <i>E. dulcis</i> ²²¹ | K ⁺ channel blocker ²²¹ |
| 341 | euphelioscopnoid B | $R_1 = \text{Ac}; R_2 = R_6 = \beta\text{H}; R_3 = \beta\text{OBz}; R_4 = \text{H}; R_5 = \text{O}^-; R_7 = \alpha\text{OH}$ | <i>E. helioscopia</i> ¹⁰⁵ | - |
| 342 | euphelioscopnoid C | $R_1 = R_4 = \text{H}; R_2 = R_6 = \alpha\text{H}; R_3 = \beta\text{OBz}; R_5 = \text{O}^-; R_7 = \beta\text{OAc}$ | <i>E. helioscopia</i> ¹⁰⁵ | - |
| 343 | euphelioscopnoid E | $R_1 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = R_7 = \beta\text{OH}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \beta\text{H}$ | <i>E. helioscopia</i> ¹⁰⁵ | - |
| 344 | euphelioscopnoid F | $R_1 = R_4 = \text{H}; R_2 = \beta\text{H}; R_3 = \beta\text{OH}; R_5 = \text{O}^-; R_6 = \alpha\text{H}; R_7 = \alpha\text{OH}$ | <i>E. helioscopia</i> ¹⁰⁵ | - |
| 345 | euphelioscopnoid G | $R_1 = \text{Ac}; R_2 = \beta\text{H}; R_3 = \beta\text{OH}; R_4 = \text{H}; R_5 = \text{O}^-; R_6 = \alpha\text{H}; R_7 = \text{O}^-$ | <i>E. helioscopia</i> ¹⁰⁵ | - |
| 346 | euphelioscopnoid H | $R_1 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \beta\text{OH}; R_4 = \text{H}; R_5 = R_7 = \text{O}^-; R_6 = \beta\text{H}$ | <i>E. helioscopia</i> ¹⁰⁵ | - |

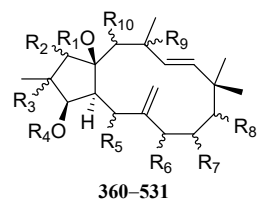
| | | | | | | | |
|---|-----|-----------------------------|--|--|--------------------------------------|-----------------------------|--|
|  | 347 | euphohelioscoid B | - | | <i>E. helioscopia</i> ¹³¹ | - | |
|  | 348 | helioscopianoid F | - | | <i>E. helioscopia</i> ¹³⁰ | - | |
|  | 349 | helioscopianoid Q | R ₁ = αMe; R ₂ = R ₃ = OH; R ₄ = O= | | <i>E. helioscopia</i> ¹³⁰ | - | |
| | 350 | euphoscopoid D ^b | R ₁ = αMe; R ₂ = R ₄ = O=; R ₃ = H | | <i>E. helioscopia</i> ¹³⁴ | - | |
| | 351 | euphelioscopnoid I | R ₁ = αMe; R ₂ = R ₃ = OH; R ₄ = O= | | <i>E. helioscopia</i> ¹⁰⁵ | - | |
| | 352 | euphelioscopnoid J | R ₁ = βMe; R ₂ = OH; R ₃ = H; R ₄ = O= | | <i>E. helioscopia</i> ¹⁰⁵ | - | |
| | 353 | euphelioscopnoid K | R ₁ = αMe; R ₂ = OAc; R ₃ = OH; R ₄ = βOAc | | <i>E. helioscopia</i> ¹⁰⁵ | - | |
| 349–353 | | | | | | | |
|  | 354 | euphelioscopnoid D | - | | <i>E. helioscopia</i> ¹⁰⁵ | - | |
|  | 355 | euphodendrophane Q | R ₁ = O=; R ₂ = βH; R ₃ = R ₇ = αOAc; R ₄ = Pr; R ₅ = OAc; R ₆ = βOMePr; R ₈ = αONic | | <i>E. dendroides</i> ¹³⁵ | MDR reverser ¹³⁵ | |
| | 356 | euphodendrophane R | R ₁ = O=; R ₂ = βH; R ₃ = αOAc; R ₄ = Ac; R ₅ = OAc; R ₆ = βOMePr; R ₇ = R ₈ = αONic | | <i>E. nicaeensis</i> ¹³⁶ | MDR reverser ¹³⁵ | |
| | 357 | euphodendrophane S | R ₁ = O=; R ₂ = βH; R ₃ = R ₇ = αOAc; R ₄ = Ac; R ₅ = OAc; R ₆ = βOMePr; R ₈ = αOBz | | <i>E. dendroides</i> ¹³⁵ | MDR reverser ¹³⁵ | |
| | 358 | - | R ₁ = R ₇ = βOAc; R ₂ = αH; R ₃ = βH; R ₄ = Ac; R ₅ = H; R ₆ = βOH; R ₈ = αOBz | | <i>E. nicaeensis</i> ¹³⁶ | - | |
| 355–358 | | | | | | | |
|  | 359 | - | - | | <i>E. connata</i> ¹³⁷ | - | |



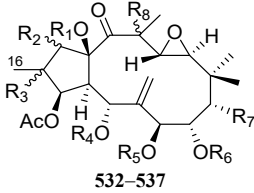
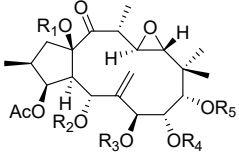
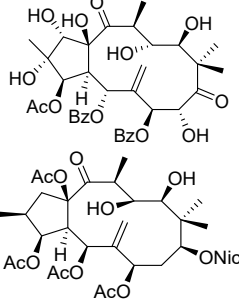
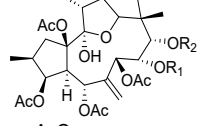
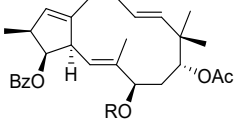
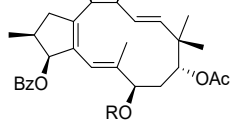
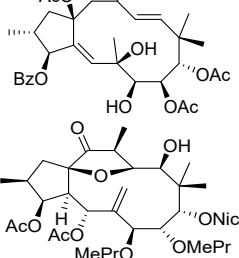
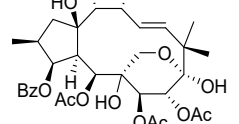
| | | | | |
|-----|--------------------------------|---|--------------------------------------|---------------------------------|
| 360 | euphorpin D | $R_1 = R_2 = R_6 = R_7 = H; R_3 = \beta H; R_4 = Bz; R_5 = \alpha OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. helioscopia</i> ¹⁴³ | - |
| 361 | euphoglophane S | $R_1 = R_2 = R_6 = R_7 = H; R_3 = R_9 = \alpha H; R_4 = Bz; R_5 = \alpha OAc; R_8 = R_{10} = O=$ | <i>E. glomerulans</i> ²²² | MDR reverser ²²² |
| 362 | euphoglophane T | $R_1 = R_2 = H; R_3 = R_9 = \alpha H; R_4 = Bz; R_5 = R_7 = \alpha OAc; R_6 = \beta OBz; R_8 = R_{10} = O=$ | <i>E. glomerulans</i> ²²² | MDR reverser ²²² |
| 363 | euphoglophane V | $R_1 = R_2 = H; R_3 = R_9 = \alpha H; R_4 = Bz; R_5 = \alpha OAc; R_6 = \beta OAc; R_7 = \alpha OMePr; R_8 = R_{10} = O=$ | <i>E. glomerulans</i> ²²² | MDR reverser ²²² |
| 364 | euphpepluone A ^b | $R_1 = R_2 = H; R_3 = \alpha OH; R_4 = Bz; R_5 = R_7 = \alpha OAc; R_6 = \beta OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 365 | euphpepluone B | $R_1 = R_2 = H; R_3 = \alpha OH; R_4 = Bz; R_5 = \alpha OAc; R_6 = \beta OAc; R_7 = R_9 = \alpha H; R_8 = R_{10} = O=$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 366 | euphpepluone C ^b | $R_1 = R_2 = H; R_3 = \alpha OH; R_4 = Bz; R_5 = R_7 = \alpha OAc; R_6 = \beta OTig; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 367 | euphpepluone D ^b | $R_1 = R_2 = H; R_3 = R_5 = \alpha OAc; R_4 = Bz; R_6 = \beta OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 368 | euphpepluone E | $R_1 = R_2 = H; R_3 = R_5 = \alpha OH; R_4 = Bz; R_6 = \beta OTig; R_7 = \alpha OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 369 | euphopepluanone F ^b | $R_1 = R_2 = H; R_3 = \alpha OH; R_4 = Bz; R_5 = R_7 = \alpha OAc; R_6 = \beta OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. peplus</i> ²²⁴ | - |
| 370 | euphopepluanone I | $R_1 = R_2 = H; R_3 = \alpha OH; R_4 = Bz; R_5 = R_7 = \alpha OAc; R_6 = \beta OAng; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. peplus</i> ²²⁴ | lysosome inducer ²²⁴ |
| 371 | euphopepluanone J | $R_1 = R_2 = H; R_3 = R_5 = R_7 = \alpha OAc; R_4 = Bz; R_6 = \beta OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. peplus</i> ²²⁴ | - |
| 372 | euphopepluanone K | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Bz; R_5 = R_7 = \alpha OH; R_6 = \beta OH; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. peplus</i> ²²⁴ | - |
| 373 | helioscopianoid M | $R_1 = R_2 = R_6 = R_7 = H; R_3 = R_9 = \beta H; R_4 = Bz; R_5 = \alpha OAc; R_8 = R_{10} = O=$ | <i>E. helioscopia</i> ¹³⁰ | - |
| 374 | - | $R_1 = R_2 = H; R_3 = R_6 = \alpha OAc; R_4 = Bz; R_5 = \beta OH; R_7 = \beta OBU; R_8 = R_{10} = \beta OAc; R_9 = \alpha H$ | <i>E. osyridea</i> ²²⁵ | cytotoxicity ²²⁵ |
| 375 | - | $R_1 = R_2 = H; R_3 = R_6 = \alpha OAc; R_4 = Bz; R_5 = \beta OH; R_7 = \beta OPr; R_8 = R_{10} = \beta OAc; R_9 = \alpha H$ | <i>E. osyridea</i> ²²⁵ | cytotoxicity ²²⁵ |
| 376 | - | $R_1 = R_2 = H; R_3 = R_6 = \alpha OAc; R_4 = Bz; R_5 = \beta OH; R_7 = R_8 = R_{10} = \beta OAc; R_9 = \alpha H$ | <i>E. osyridea</i> ²²⁵ | cytotoxicity ²²⁵ |
| 377 | euphpepluone F | $R_1 = R_2 = H; R_3 = R_5 = R_7 = R_8 = R_{10} = \alpha OAc; R_4 = Bz; R_6 = \beta OTig; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 378 | euphpepluone G | $R_1 = R_2 = H; R_3 = R_5 = R_8 = R_{10} = \alpha OAc; R_4 = Bz; R_6 = \beta OPr; R_7 = \alpha OH; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 379 | euphpepluone H | $R_1 = R_2 = H; R_3 = R_5 = R_8 = R_{10} = \alpha OAc; R_4 = Bz; R_6 = \beta OTig; R_7 = \alpha OH; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 380 | euphpepluone K | $R_1 = R_2 = H; R_3 = R_5 = R_{10} = \alpha OAc; R_4 = Bz; R_6 = \beta OTig; R_7 = \alpha OH; R_8 = \alpha ONic; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 381 | euphpepluone L | $R_1 = R_2 = H; R_3 = R_5 = R_{10} = \alpha OAc; R_4 = Bz; R_6 = \beta OH; R_7 = \alpha OMePr; R_8 = \alpha ONic; R_9 = \alpha H$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 382 | euphodefexin A | $R_1 = H; R_2 = \beta OBz; R_3 = R_7 = \alpha OAc; R_4 = Bz; R_5 = R_8 = \alpha OH; R_6 = \beta OAc; R_9 = \alpha H; R_{10} = \beta OH$ | <i>E. deflexa</i> ¹⁹⁰ | cytotoxicity ¹⁹⁰ |
| 383 | euphodefexin B | $R_1 = H; R_2 = R_6 = \beta OAc; R_3 = R_5 = R_8 = \alpha OH; R_4 = Bz; R_7 = \alpha OAc; R_9 = \alpha H; R_{10} = \beta OBz$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 384 | euphodefexin C | $R_1 = H; R_2 = \beta OBz; R_3 = R_7 = \alpha OAc; R_4 = Bz; R_5 = R_8 = \alpha OH; R_6 = R_{10} = \beta OAc; R_9 = \alpha H$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 385 | euphodefexin D | $R_1 = H; R_2 = \beta OBz; R_3 = \alpha OAc; R_4 = Bz; R_5 = R_8 = \alpha OH; R_6 = \beta OAc; R_7 = \alpha OBz; R_9 = \alpha H; R_{10} = \beta OH$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 386 | usambaricinophane F | $R_1 = R_4 = H; R_2 = \beta OAc; R_3 = R_8 = R_{10} = \alpha OAc; R_5 = \alpha OBz; R_6 = \beta OMePr; R_7 = \alpha OH; R_9 = \alpha H$ | <i>E. usambarica</i> ⁴⁸ | - |
| 387 | - | $R_1 = R_2 = R_4 = H; R_3 = R_7 = R_{10} = \alpha OAc; R_5 = \alpha OBz; R_6 = \beta OAc; R_8 = O=; R_9 = \alpha H$ | <i>E. exigua</i> ²²⁶ | MDR reverser ²²⁶ |
| 388 | euphoglophane U | $R_1 = R_2 = R_4 = H; R_3 = R_7 = R_{10} = \alpha OAc; R_5 = \alpha OBz; R_6 = \beta OBz; R_8 = O=; R_9 = \alpha H$ | <i>E. glomerulans</i> ²²² | MDR reverser ²²² |
| 389 | euphodefexin G | $R_1 = H; R_2 = \beta OBz; R_3 = R_7 = \alpha OAc; R_4 = Bz; R_5 = \alpha OH; R_6 = R_{10} = \beta OAc; R_8 = O=; R_9 = \alpha H$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 390 | euphodefexin F | $R_1 = H; R_2 = \beta OBz; R_3 = R_5 = \alpha OH; R_4 = Bz; R_6 = R_{10} = \beta OAc; R_7 = \alpha OAc; R_8 = O=; R_9 = \alpha H; Z-\Delta^{11}$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 391 | - | $R_1 = R_2 = H; R_3 = \beta H; R_4 = Bz; R_5 = R_7 = \alpha OH; R_6 = \beta OPr; R_8 = \alpha OCin; R_9 = \alpha H; R_{10} = O=$ | <i>E. exigua</i> ²²⁶ | MDR reverser ²²⁶ |
| 392 | cyparissin A | $R_1 = Ac; R_2 = H; R_3 = R_5 = \alpha OH; R_4 = Bz; R_6 = \beta OAc; R_7 = \alpha OBz; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. cyparissias</i> ²²⁷ | MDR reverser ²²⁷ |
| 393 | euphosorophane F | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_9 = \alpha H; R_5 = \alpha OAc; R_6 = \beta H; R_7 = \alpha OAc; R_8 = R_{10} = O=$ | <i>E. sororia</i> ¹⁴⁸ | MDR reverser ¹⁴⁸ |
| 394 | euphosorophane G | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_9 = \alpha H; R_5 = \alpha OAc; R_6 = \beta OMePr; R_7 = \alpha OH; R_8 = R_{10} = O=$ | <i>E. sororia</i> ¹⁴⁸ | MDR reverser ¹⁴⁸ |
| 395 | euphoglophane R | $R_1 = R_4 = Ac; R_2 = R_6 = R_7 = H; R_3 = R_9 = \alpha H; R_5 = \alpha OBz; R_8 = R_{10} = O=$ | <i>E. glomerulans</i> ²²² | MDR reverser ²²² |
| 396 | euphodefexin H | $R_1 = R_4 = Ac; R_2 = R_6 = R_7 = H; R_3 = R_9 = \alpha H; R_5 = \beta OBz; R_8 = R_{10} = O=$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 397 | euphodefexin I | $R_1 = Ac; R_2 = R_6 = H; R_3 = R_9 = \alpha H; R_4 = Bz; R_5 = \beta OAc; R_7 = \alpha OAc; R_8 = R_{10} = O=$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 398 | euphodefexin J | $R_1 = Ac; R_2 = R_6 = H; R_3 = R_9 = \alpha H; R_4 = Bz; R_5 = \beta OAc; R_7 = \alpha OH; R_8 = R_{10} = O=$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 399 | euphodefexin K | $R_1 = R_4 = Ac; R_2 = R_6 = H; R_3 = R_9 = \alpha H; R_5 = \beta OBz; R_7 = \alpha OH; R_8 = R_{10} = O=$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 400 | euphorsjat B | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_7 = \alpha OH; R_5 = \alpha OBz; R_6 = \beta OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. kansui</i> ²²⁸ | MDR reverser ²²⁸ |
| 401 | euphorsjat C | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha OBz; R_5 = \alpha OAc; R_6 = \beta OBz; R_7 = \alpha OH; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. kansui</i> ²²⁸ | MDR reverser ²²⁸ |
| 402 | euphorsjat D | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha OBz; R_5 = R_7 = \alpha OAc; R_6 = \beta OBz; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. kansui</i> ²²⁸ | MDR reverser ²²⁸ |

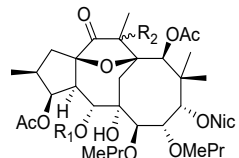
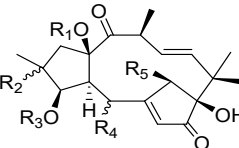
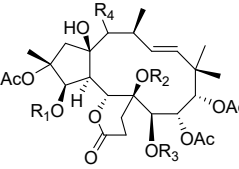
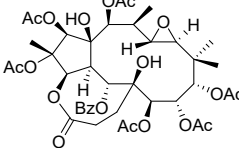
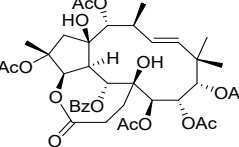
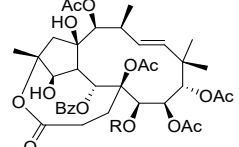
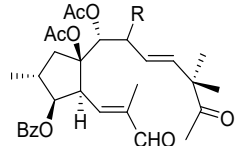
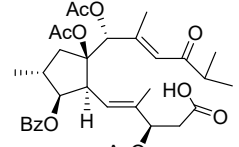
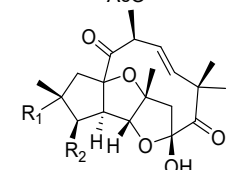


| | | | | |
|-----|--------------------------------|---|---|---|
| 403 | cyparissin B | $R_1 = R_2 = H; R_3 = \alpha OH; R_4 = Bz; R_5 = \alpha OAc; R_6 = \beta OAc; R_7 = \alpha OBz; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. cyparissias</i> ²²⁷ | MDR reverser ²²⁷ |
| 404 | - | $R_1 = R_2 = H; R_3 = R_7 = R_8 = \alpha OAc; R_4 = Bz; R_5 = R_{10} = \beta OAc; R_6 = \beta OMePr; R_9 = \alpha H$ | <i>E. peplus</i> ²²⁹ | antifedant ²²⁹ |
| 405 | euphopepluanone L | $R_1 = R_2 = H; R_3 = R_5 = R_8 = \alpha OAc; R_4 = Bz; R_6 = \beta OH; R_7 = \alpha OMePr; R_9 = \alpha H; R_{10} = \beta OAc$ | <i>E. peplus</i> ²³⁰ | - |
| 406 | euphosorophane H | $R_1 = R_2 = R_4 = H; R_3 = R_7 = R_8 = \alpha OAc; R_5 = \alpha OH; R_6 = \beta OMePr; R_9 = \alpha H; R_{10} = \beta OBz$ | <i>E. sororia</i> ¹⁴⁸ | MDR reverser ¹⁴⁸ |
| 407 | euphosorophane I | $R_1 = R_2 = R_4 = H; R_3 = R_7 = R_8 = \alpha OAc; R_5 = \alpha OMeBu; R_6 = \beta OAc; R_9 = \alpha H; R_{10} = \beta OBz$ | <i>E. sororia</i> ¹⁴⁸ | MDR reverser ¹⁴⁸ |
| 408 | euphosorophane J | $R_1 = R_2 = H; R_3 = R_7 = R_8 = \alpha OAc; R_4 = Ac; R_5 = \alpha OMePr; R_6 = \beta OH; R_9 = \alpha H; R_{10} = \beta OBz$ | <i>E. sororia</i> ¹⁴⁸ | MDR reverser ¹⁴⁸ |
| 409 | euphosorophane K | $R_1 = R_2 = H; R_3 = R_7 = R_8 = \alpha OAc; R_4 = Ac; R_5 = \alpha OPr; R_6 = \beta OPr; R_9 = \alpha H; R_{10} = \beta OBz$ | <i>E. sororia</i> ¹⁴⁸ | MDR reverser ¹⁴⁸ |
| 410 | euphosorophane L | $R_1 = R_2 = R_4 = H; R_3 = R_7 = R_8 = \alpha OAc; R_5 = \alpha OMePr; R_6 = \beta OAc; R_9 = \alpha H; R_{10} = \beta OBz$ | <i>E. sororia</i> ¹⁴⁸ | MDR reverser ¹⁴⁸ |
| 411 | guyonianin G | $R_1 = R_2 = H; R_3 = \alpha OMePr; R_4 = Ac; R_5 = \beta OH; R_6 = \beta OMePr; R_7 = \beta OAc; R_8 = \alpha OBz; R_9 = \alpha H; R_{10} = O=$ | <i>E. guyoniana</i> ²³¹ | K ⁺ channel blocker ²³¹ |
| 412 | guyonianin H | $R_1 = R_2 = H; R_3 = \alpha OMePr; R_4 = Ac; R_5 = \beta OH; R_6 = R_7 = \beta OAc; R_8 = \alpha OBz; R_9 = \alpha H; R_{10} = O=$ | <i>E. guyoniana</i> ²³¹ | K ⁺ channel blocker ²³¹ |
| 413 | euphodendrophane G | $R_1 = R_2 = R_6 = R_7 = H; R_3 = \alpha ONic; R_4 = Val; R_5 = \alpha OAc; R_8 = R_{10} = O=; R_9 = \beta H$ | <i>E. dendroides</i> ¹³⁵ | - |
| 414 | euphodendrophane H | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Pr; R_5 = \alpha OAc; R_6 = \beta OMePr; R_7 = \alpha OBz; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ | MDR reverser ¹³⁵ |
| 415 | euphodendrophane I | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Pr; R_5 = \alpha OAc; R_6 = \beta OMePr; R_7 = R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ | MDR reverser ¹³⁵ |
| 416 | euphpepluone I | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = R_7 = \alpha OAc; R_6 = \beta OAc; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 417 | euphodendrophane J | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Pr; R_5 = \alpha OAc; R_6 = \beta OMePr; R_7 = \alpha OMePr; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ | MDR reverser ¹³⁵ |
| 418 | euphodendrophane K | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = MePr; R_5 = \alpha OAc; R_6 = \beta OMePr; R_7 = \alpha OBz; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ | MDR reverser ¹³⁵ |
| 419 | euphodendrophane L | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = MePr; R_5 = \alpha OAc; R_6 = \beta OMePr; R_7 = R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ | MDR reverser ¹³⁵ |
| 420 | euphodendrophane M | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = MePr; R_6 = \beta OAc; R_5 = R_8 = \alpha OAc; R_7 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ | - |
| 421 | euphodendrophane N | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Ac; R_5 = R_7 = \alpha OAc; R_6 = \beta OMePr; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ ; <i>E. nicaeensis</i> ¹³⁶ | - |
| 422 | euphodendrophane O | $R_1 = R_2 = H; R_3 = R_5 = R_7 = \alpha OAc; R_4 = MePr; R_6 = \beta OMePr; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ ; <i>E. nicaeensis</i> ¹³⁶ | - |
| 423 | euphodendrophane P | $R_1 = R_2 = H; R_3 = R_7 = \alpha OAc; R_4 = MePr; R_5 = R_8 = \alpha ONic; R_6 = \beta OMePr; R_9 = \beta H; R_{10} = O=$ | <i>E. dendroides</i> ¹³⁵ | - |
| 424 | euphodendroidin J ^b | $R_1 = R_2 = H; R_3 = \alpha OH; R_4 = Bz; R_5 = \beta OH; R_6 = \beta OBz; R_7 = R_8 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³² | - |
| 425 | euphodendroidin K | $R_1 = R_2 = H; R_3 = R_7 = R_8 = \alpha OAc; R_4 = MePr; R_5 = \beta OMePr; R_6 = \beta OBz; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³² | - |
| 426 | euphodendroidin L | $R_1 = R_2 = H; R_3 = R_7 = R_8 = \alpha OAc; R_4 = Ac; R_5 = \beta OMePr; R_6 = \beta OBz; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³² | - |
| 427 | euphodendroidin M | $R_1 = R_2 = H; R_3 = R_7 = R_8 = \alpha OAc; R_4 = Bz; R_5 = R_6 = \beta OMePr; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³² | - |
| 428 | euphpepluone J | $R_1 = R_2 = H; R_3 = \alpha OAc; R_4 = Bz; R_5 = \alpha OH; R_6 = \beta OAc; R_7 = \alpha OMePr; R_8 = \alpha ONic; R_9 = \alpha H; R_{10} = O=$ | <i>E. peplus</i> ²²³ | MDR reverser ²²³ |
| 429 | euphodendroidin N | $R_1 = R_2 = R_4 = H; R_3 = R_7 = R_8 = \alpha OAc; R_5 = R_6 = \beta OBz; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³² | - |
| 430 | euphodendroidin O ^b | $R_1 = R_2 = R_4 = H; R_3 = R_8 = \alpha OAc; R_5 = R_6 = \beta OBz; R_7 = \alpha OH; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³² | - |
| 431 | euphodendroidin P | $R_1 = R_2 = H; R_3 = \alpha OH; R_4 = Ac; R_5 = \beta OBz; R_6 = \beta ONic; R_7 = R_8 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³³ | - |
| 432 | eupholene C ^b | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha OH; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. sieboldiana</i> ¹⁹¹ | anti-fibrosis ¹⁹¹ |
| 433 | eupholene D ^b | $R_1 = R_4 = Ac; R_2 = \alpha OH; R_3 = R_9 = \alpha H; R_5 = \alpha OBz; R_6 = \beta OBz; R_7 = R_8 = \alpha OAc; R_{10} = O=$ | <i>E. sieboldiana</i> ¹⁹¹ | anti-fibrosis ¹⁹¹ |
| 434 | eupholene E | $R_1 = R_4 = Ac; R_2 = R_7 = \alpha OH; R_3 = R_9 = \alpha H; R_5 = \alpha OBz; R_6 = \beta OBz; R_8 = \alpha OAc; R_{10} = O=$ | <i>E. sieboldiana</i> ¹⁹¹ | anti-fibrosis ¹⁹¹ |
| 435 | eupholene F | $R_1 = R_4 = Ac; R_2 = R_3 = \alpha OH; R_5 = \alpha OBz; R_6 = \beta OAc; R_7 = R_8 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. sieboldiana</i> ¹⁹¹ | anti-fibrosis ¹⁹¹ |
| 436 | euphodefexin E | $R_1 = H; R_2 = \beta OBz; R_3 = R_7 = \alpha OAc; R_4 = Bz; R_5 = R_8 = \alpha OH; R_6 = \beta OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. deflexa</i> ¹⁹⁰ | - |
| 437 | euphodendroidin Q | $R_1 = R_2 = H; R_3 = R_8 = \alpha ONic; R_4 = Ac; R_5 = \beta OAc; R_6 = \beta OBz; R_7 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³³ | - |
| 438 | euphodendroidin R | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_8 = \alpha ONic; R_5 = \beta OAc; R_6 = \beta OBz; R_7 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³³ | - |
| 439 | euphodendroidin S | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_8 = \alpha ONic; R_5 = \beta OAc; R_6 = \beta OMePr; R_7 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³³ | - |
| 440 | euphorksajat E | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_9 = \alpha H; R_5 = R_6 = \beta OAc; R_7 = R_8 = \alpha OBz; R_{10} = O=$ | <i>E. kansui</i> ²²⁸ | MDR reverser ²²⁸ |
| 441 | euphorksajat F | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_9 = \alpha H; R_5 = \beta OAc; R_6 = \beta OBz; R_7 = \alpha OAc; R_8 = \alpha OBz; R_{10} = O=$ | <i>E. kansui</i> ²²⁸ | MDR reverser ²²⁸ |
| 442 | euphorksajat A | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_9 = \alpha H; R_5 = R_6 = \beta OAc; R_7 = \alpha OBz; R_8 = R_{10} = O=$ | <i>E. kansui</i> ²²⁸ | MDR reverser ²²⁸ |
| 443 | usambaricinophane G | $R_1 = R_2 = R_4 = H; R_3 = \alpha ONic; R_5 = \alpha OBz; R_6 = \beta OMePr; R_7 = R_8 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. usambarica</i> ⁴⁸ | - |
| 444 | euphodendroidin T | $R_1 = R_2 = H; R_3 = R_8 = \alpha ONic; R_4 = Ac; R_5 = \beta OMePr; R_6 = \beta OBz; R_7 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. dendroides</i> ²³³ | - |
| 445 | - | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Ac; R_5 = R_8 = \alpha OAc; R_6 = \beta OAc; R_7 = \alpha OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁸ | - |

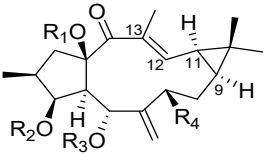
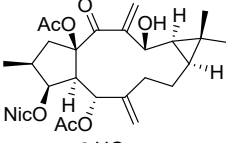
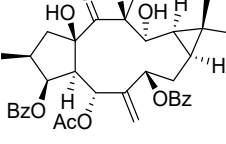
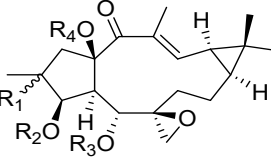


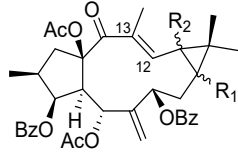
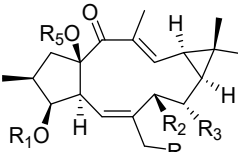
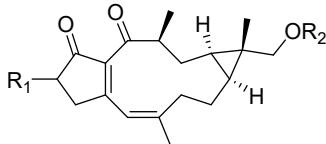
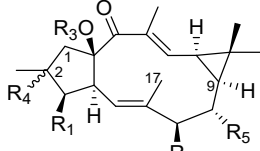
| | | | | |
|-----|-------------------------------|---|----------------------------------|--|
| 446 | - | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Ac; R_5 = \alpha OH; R_6 = \beta OBz; R_7 = \alpha OAc; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁸ | anti-osteoclastogenesis ¹³⁸ |
| 447 | - | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OAc; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁸ | - |
| 448 | - | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = R_7 = \alpha OAc; R_6 = \beta OBz; R_8 = R_{10} = O=; R_9 = \beta H$ | <i>E. esula</i> ¹³⁸ | - |
| 449 | euphoresulane A ^b | $R_1 = Ac; R_2 = R_4 = H; R_3 = R_5 = R_8 = \alpha OAc; R_6 = \beta OAc; R_7 = \alpha OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 450 | euphoresulane B | $R_1 = Ac; R_2 = R_4 = H; R_3 = \alpha H; R_5 = R_8 = \alpha OAc; R_6 = \beta OAc; R_7 = \alpha OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 451 | euphoresulane C | $R_1 = R_2 = H; R_3 = R_5 = R_8 = \alpha OAc; R_4 = Ac; R_6 = \beta OAc; R_7 = \alpha OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 452 | euphoresulane D | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Ac; R_5 = R_8 = \alpha OAc; R_6 = \beta OAc; R_7 = \alpha OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 453 | euphoresulane E | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OAc; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 454 | euphoresulane F ^b | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = R_7 = \alpha OAc; R_6 = \beta OAc; R_8 = \alpha OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 455 | euphoresulane G | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_5 = R_7 = \alpha OAc; R_6 = \beta OAc; R_8 = \alpha OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 456 | euphoresulane H | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Ac; R_5 = \alpha OAc; R_6 = \beta OAc; R_7 = R_8 = \alpha OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 457 | euphoresulane I | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = \alpha OH; R_6 = \beta OAc; R_7 = \alpha OBz; R_8 = \alpha OAc; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 458 | euphoresulane J ^b | $R_1 = H; R_2 = \alpha OAc; R_3 = R_7 = \alpha OH; R_4 = Ac; R_5 = \alpha OBz; R_6 = \beta OBz; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 459 | euphoresulane K | $R_1 = R_4 = Ac; R_2 = R_6 = H; R_3 = R_9 = \alpha H; R_5 = \alpha OBz; R_7 = \alpha OAc; R_8 = R_{10} = O=$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 460 | euphoresulane L | $R_1 = R_4 = Ac; R_2 = R_6 = H; R_3 = \alpha OH; R_5 = \alpha OBz; R_7 = \alpha OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 461 | euphoresulane M | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha OH; R_5 = \alpha OBz; R_6 = \beta OAc; R_7 = \alpha OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. esula</i> ¹³⁹ | MDR reverser ¹³⁹ |
| 462 | euphorbesulin D | $R_1 = H; R_2 = R_6 = \beta OAc; R_3 = R_9 = \alpha H; R_4 = Ac; R_5 = \alpha OBz; R_7 = R_8 = \alpha OAc; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 463 | euphorbesulin E | $R_1 = Ac; R_2 = \beta OH; R_3 = R_9 = \alpha H; R_4 = Bz; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OAc; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 464 | euphorbesulin F | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_9 = \alpha H; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OAc; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 465 | euphorbesulin G | $R_1 = Ac; R_2 = H; R_3 = R_9 = \alpha H; R_4 = Ac; R_5 = \alpha OBz; R_6 = \beta OBz; R_7 = R_8 = \alpha OAc; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | antimalarial ¹¹¹ |
| 466 | euphorbesulin H | $R_1 = HOCH_2CO; R_2 = H; R_3 = OAc; R_4 = Bz; R_5 = \beta OAc; R_6 = \beta OBz; R_7 = R_8 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 467 | euphorbesulin I | $R_1 = R_4 = Ac; R_2 = \beta OH; R_3 = R_9 = \alpha H; R_5 = \alpha OBz; R_6 = \beta OAc; R_7 = R_8 = \alpha OAc; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 468 | euphorbesulin J | $R_1 = R_4 = Ac; R_2 = H; R_3 = R_9 = \alpha H; R_5 = R_8 = \alpha OAc; R_6 = \beta OBz; R_7 = \alpha OH; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | antimalarial ¹¹¹ |
| 469 | euphorbesulin K | $R_1 = Ac; R_2 = H; R_3 = R_5 = R_8 = \alpha OAc; R_4 = Ac; R_6 = \beta OBz; R_7 = \alpha OH; R_9 = \alpha H; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 470 | euphorbesulin L | $R_1 = Ac; R_2 = H; R_3 = R_5 = R_7 = R_8 = \alpha OAc; R_4 = Bz; R_6 = \beta OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 471 | euphorbesulin M | $R_1 = Ac; R_2 = H; R_3 = \alpha OH; R_4 = Bz; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OBz; R_9 = \alpha H; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 472 | euphorbesulin N | $R_1 = R_4 = Ac; R_2 = \beta OH; R_3 = \alpha OH; R_5 = \alpha OBz; R_6 = \beta OBz; R_7 = R_8 = \alpha OAc; R_9 = \alpha H; R_{10} = O=$ | <i>E. esula</i> ¹¹¹ | - |
| 473 | euphoesulatin A ^b | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = R_7 = \alpha OAc; R_6 = \beta OBz; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | anti-osteoclastogenesis ¹⁴⁰ |
| 474 | euphoesulatin B | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Ac; R_5 = R_7 = \alpha OAc; R_6 = \beta OBz; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | - |
| 475 | euphoesulatin C | $R_1 = Ac; R_2 = R_4 = H; R_3 = \alpha H; R_5 = R_7 = \alpha OAc; R_6 = \beta OBz; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | - |
| 476 | euphoesulatin D | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = \alpha OH; R_6 = \beta OBz; R_7 = \alpha OAc; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | anti-osteoclastogenesis ¹⁴⁰ |
| 477 | euphoesulatin E | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = \alpha OH; R_6 = \beta OAc; R_7 = \alpha OBz; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | anti-osteoclastogenesis ¹⁴⁰ |
| 478 | euphoesulatin F | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = R_7 = \alpha OAc; R_6 = \beta OAc; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | anti-osteoclastogenesis ¹⁴⁰ |
| 479 | euphoesulatin G | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Ac; R_5 = \alpha OAc; R_6 = \beta OBz; R_7 = \alpha OH; R_8 = \alpha ONic; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | anti-osteoclastogenesis ¹⁴⁰ |
| 480 | euphoesulatin H ^b | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | anti-osteoclastogenesis ¹⁴⁰ |
| 481 | euphoesulatin I | $R_1 = R_2 = H; R_3 = \alpha H; R_4 = Ac; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | - |
| 482 | euphoesulatin J | $R_1 = Ac; R_2 = R_4 = H; R_3 = \alpha H; R_5 = R_7 = R_8 = \alpha OAc; R_6 = \beta OBz; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | anti-osteoclastogenesis ¹⁴⁰ |
| 483 | euphoesulatin K | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = \alpha OH; R_6 = \beta OBz; R_7 = R_8 = \alpha OAc; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | - |
| 484 | euphoesulatin L | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha H; R_5 = \alpha OH; R_6 = \beta OAc; R_7 = \alpha OBz; R_8 = \alpha OAc; R_9 = \beta H; R_{10} = O=$ | <i>E. esula</i> ¹⁴⁰ | - |
| 485 | euphoesulatin O | $R_1 = R_4 = Ac; R_2 = H; R_3 = \alpha OH; R_5 = \alpha OBz; R_6 = \beta OAc; R_7 = \alpha OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. esula</i> ¹⁴⁰ | - |
| 486 | kanesulone A | $R_1 = Ac; R_2 = \beta OH; R_3 = R_7 = \alpha OH; R_4 = Ac; R_5 = \alpha OBz; R_6 = \beta OBz; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. kansui</i> ²³⁴ | anti-inflammation ²³⁴ |
| 487 | kanesulone B | $R_1 = H; R_2 = \beta OAc; R_3 = \alpha OH; R_4 = Ac; R_5 = \alpha OBz; R_6 = \beta OBz; R_7 = \alpha OAc; R_8 = R_{10} = O=; R_9 = \alpha H$ | <i>E. kansui</i> ²³⁴ | anti-inflammation ²³⁴ |
| 488 | euphosorophane A ^b | $R_1 = R_2 = H; R_3 = R_7 = R_8 = \alpha OAc; R_4 = Ac; R_5 = \alpha OMeBu; R_6 = \beta OMePr; R_9 = \alpha H; R_{10} = \beta OBz$ | <i>E. sororia</i> ¹⁴⁷ | MDR reverser ¹⁴⁷ |
| 489 | euphosorophane B | $R_1 = R_2 = H; R_3 = \alpha OMePr; R_4 = Ac; R_5 = \alpha OBz; R_6 = \beta OMePr; R_7 = R_8 = \alpha OAc; R_9 = \alpha H; R_{10} = \beta OH$ | <i>E. sororia</i> ¹⁴⁷ | MDR reverser ¹⁴⁷ |

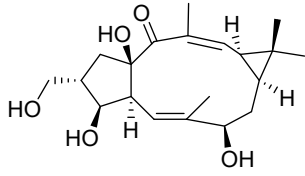
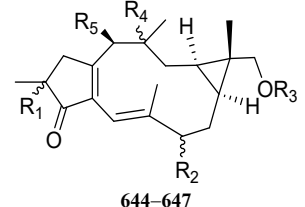
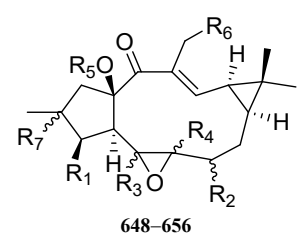
| | | | | | |
|--|--|---------------------|--|---|--|
|  <p>532-537</p> | 532 | 8Bz-esulatin A | R ₁ = R ₄ = R ₇ = Ac; R ₂ = H; R ₃ = αOAc; R ₅ = MePr; R ₆ = Bz; R ₈ = βH | <i>E. lunulata</i> ²³⁹ | - |
| | 533 | euphoesulatin P | R ₁ = H; R ₂ = αOAc; R ₃ = αOH; R ₄ = R ₅ = Bz; R ₆ = Ac; R ₇ = O=; R ₈ = αH | <i>E. esula</i> ¹⁴⁰ | - |
| | 534 | euphoesulatin Q | R ₁ = Ac; R ₂ = R ₃ = αOH; R ₄ = R ₅ = R ₆ = Bz; R ₇ = O=; R ₈ = αH | <i>E. esula</i> ¹⁴⁰ | - |
| | 535 | euphoesulatin R | R ₁ = Ac; R ₂ = R ₃ = αOH; R ₄ = R ₅ = Bz; R ₆ = Nic; R ₇ = O=; R ₈ = αH | <i>E. esula</i> ¹⁴⁰ | - |
| | 536 | kansuijatrophanol C | R ₁ = Ac; R ₂ = R ₃ = αOH; R ₄ = R ₅ = Bz; R ₆ = MCin; R ₇ = O=; R ₈ = αH | <i>E. kansui</i> ¹⁴² | cytotoxicity ¹⁴² |
| | 537 | kansuijatrophanol D | R ₁ = Ac; R ₂ = αOMCin; R ₃ = αOH; R ₄ = R ₅ = Bz; R ₆ = MCin; R ₇ = O=; R ₈ = αH | <i>E. kansui</i> ¹⁴² | cytotoxicity ¹⁴² |
| |  <p>538-540</p> | 538 | epoxywelwitschene | R ₁ = H; R ₂ = Ac; R ₃ = R ₄ = MePr; R ₅ = Nic | <i>E. welwitschii</i> ¹⁴⁵ |
| 539 | | euphoesulatin M | R ₁ = R ₂ = R ₄ = R ₅ = Ac; R ₃ = Bz | <i>E. esula</i> ¹⁴⁰ | anti-osteoclastogenesis ¹⁴⁰ |
| 540 | | euphoesulatin N | R ₁ = R ₃ = Ac; R ₂ = H; R ₄ = Bz; R ₅ = Nic | <i>E. esula</i> ¹⁴⁰ | - |
|  <p>541-542</p> | 541 | kansuijatrophanol A | - | <i>E. kansui</i> ¹⁴² | cytotoxicity ¹⁴² |
| | 542 | kansuijatrophanol B | - | <i>E. kansui</i> ¹⁴² | cytotoxicity ¹⁴² |
|  <p>543-544</p> | 543 | kansuinin P | R ₁ = Nic R ₂ = Ac | <i>E. kansui</i> ²⁴¹ | - |
| | 544 | kansuinin Q | R ₁ = Ac R ₂ = Nic | <i>E. kansui</i> ²⁴¹ | - |
|  <p>545-546</p> | 545 | euphorpin F | R = Ac | <i>E. helioscopia</i> ¹⁴³ | - |
| | 546 | euphoheliphane A | R = Bu | <i>E. helioscopia</i> ¹⁴⁴ | - |
|  <p>547-549</p> | 547 | euphorpin E | R = Ac | <i>E. helioscopia</i> ¹⁴³ | - |
| | 548 | euphoheliphane B | R = Bu | <i>E. helioscopia</i> ¹⁴⁴ | - |
| | 549 | euphoheliphane C | R = Sal | <i>E. helioscopia</i> ¹⁴⁴ | - |
|  <p>550-551</p> | 550 | euphosquamosin B | - | <i>E. squamosa</i> ²²⁰ | - |
| | 551 | welwitschene | - | <i>E. welwitschii</i> ¹⁴⁵ | MDR reverser ²⁴⁰ |
|  <p>552</p> | 552 | Jatrohemiketal | - | <i>E. amygdaloides</i> subsp. <i>semiperfoliata</i> ¹⁴¹ | - |

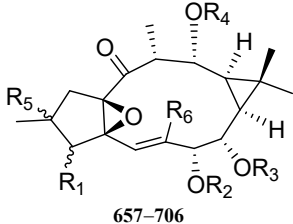
| | | | | | |
|---|-----|--------------------------------|--|--------------------------------------|---------------------------------|
|  | 553 | euphowelwitschine A | $R_1 = \text{Ac}; R_2 = \alpha\text{H}$ | <i>E. welwitschii</i> ¹⁴⁵ | MDR reverser ²⁴⁰ |
| | 554 | euphowelwitschine B | $R_1 = \text{H}; R_2 = \beta\text{H}$ | <i>E. welwitschii</i> ¹⁴⁵ | MDR reverser ²⁴⁰ |
|  | 555 | euphopepluanone A ^b | $R_1 = R_5 = \text{H}; R_2 = \alpha\text{H}; R_3 = \text{Bz}; R_4 = \alpha\text{OAc}$ | <i>E. peplus</i> ¹⁴⁶ | lysosome inducer ¹⁴⁶ |
| | 556 | euphopepluanone B | $R_1 = R_5 = \text{H}; R_2 = R_4 = \alpha\text{OAc}; R_3 = \text{Bz}; R_5 = \text{H}$ | <i>E. peplus</i> ¹⁴⁶ | - |
| | 557 | euphopepluanone C | $R_1 = \text{Ac}; R_2 = \alpha\text{OBz}; R_3 = \text{H}; R_4 = \beta\text{OH}; R_5 = \text{OH}$ | <i>E. peplus</i> ¹⁴⁶ | lysosome inducer ¹⁴⁶ |
|  | 558 | euphosorophane D ^b | $R_1 = \text{H}; R_2 = \text{Bz}; R_3 = \text{MePr}; R_4 = \beta\text{OAc}$ | <i>E. sororia</i> ¹⁴⁷ | MDR reverser ¹⁴⁷ |
| | 559 | euphosorophane M | $R_1 = \text{Bz}; R_2 = \text{H}; R_3 = \text{MePr}; R_4 = \beta\text{OAc}$ | <i>E. sororia</i> ¹⁴⁸ | MDR reverser ¹⁴⁸ |
| | 560 | usambaricinophane C | $R_1 = \text{H}; R_2 = \text{Bz}; R_3 = \text{Pr}; R_4 = \beta\text{OAc}$ | <i>E. usambarica</i> ⁴⁸ | - |
| | 561 | usambaricinophane D | $R_1 = \text{Ac}; R_2 = \text{Bz}; R_3 = \text{Pr}; R_4 = \text{O}=\text{}$ | <i>E. usambarica</i> ⁴⁸ | - |
|  | 562 | usambaricinophane E | $R_1 = \text{Ac}; R_2 = \text{Bz}; R_3 = \text{MePr}; R_4 = \text{O}=\text{}$ | <i>E. usambarica</i> ⁴⁸ | - |
| | 563 | euphosorophane E | - | <i>E. sororia</i> ¹⁴⁷ | - |
|  | 564 | isoterracinolide C | - | <i>E. usambarica</i> ⁴⁸ | - |
|  | 565 | usambaricinophane A | $R = \text{Pr}$ | <i>E. usambarica</i> ⁴⁸ | - |
| | 566 | usambaricinophane B | $R = \text{MePr}$ | <i>E. usambarica</i> ⁴⁸ | - |
|  | 567 | secoheliosphane A | $R = \beta\text{Me}$ | <i>E. helioscopia</i> ¹⁴⁹ | - |
| | 568 | secoheliosphane B | $R = \alpha\text{Me}$ | <i>E. helioscopia</i> ¹⁴⁹ | anti-virus ¹⁴⁹ |
|  | 569 | euphelioscopnoid A | - | <i>E. helioscopia</i> ¹⁰⁵ | - |
|  | 570 | cyclojatrophane A | $R_1 = \text{H}; R_2 = \text{OBz}$ | <i>E. peplus</i> ¹⁵⁰ | lysosome inducer ¹⁵⁰ |
| | 571 | cyclojatrophane B | $R_1 = \text{OAc}; R_2 = \text{OBz}$ | <i>E. peplus</i> ¹⁵⁰ | lysosome inducer ¹⁵⁰ |
| | 572 | cyclojatrophane C | $R_1 = \text{OAc}; R_2 = \text{OH}$ | <i>E. peplus</i> ¹⁵⁰ | lysosome inducer ¹⁵⁰ |

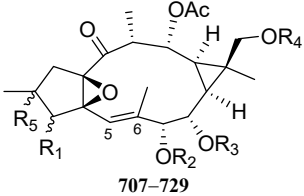
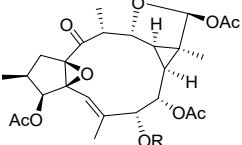
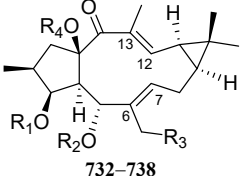
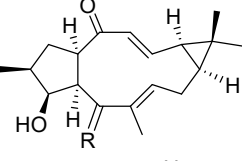
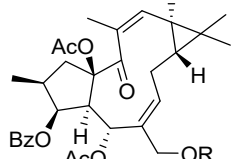
Lathyranes

| | | | | | |
|--|--|--|--|--|-----------------------------------|
|  <p>573–593</p> | 573 | <i>Euphorbia</i> factor L ₁₄ | R ₁ = R ₃ = Ac; R ₂ = Bz; R ₄ = OSal | <i>E. lathyris</i> ¹⁵¹ | - |
| | 574 | euphlathyrinoid C | R ₁ = R ₃ = Ac; R ₂ = Bz; R ₄ = O= | <i>E. lathyris</i> ²⁴² | anticholestasis ²⁴² |
| | 575 | euphlathyrinoid D | R ₁ = R ₃ = Ac; R ₂ = Cin; R ₄ = OAc | <i>E. lathyris</i> ²⁴² | anticholestasis ²⁴² |
| | 576 | <i>Euphorbia</i> factor L ₁₅ | R ₁ = R ₂ = R ₃ = Ac; R ₄ = H | <i>E. lathyris</i> ¹⁵¹ | - |
| | 577 | <i>Euphorbia</i> factor L ₁₆ | R ₁ = R ₃ = Ac; R ₂ = Sal; R ₄ = H | <i>E. lathyris</i> ¹⁵¹ | cytotoxicity ¹⁵¹ |
| | 578 | <i>Euphorbia</i> factor L ₂₇ | R ₁ = R ₃ = Ac; R ₂ = Bz; R ₄ = ONic | <i>E. lathyris</i> ¹⁵² | - |
| | 579 | <i>Euphorbia</i> factor L ₂₈ | R ₁ = H; R ₂ = Bz; R ₃ = Ac; R ₄ = ONic | <i>E. lathyris</i> ¹⁵² | cytotoxicity ¹⁵² |
| | 580 | euphornin D ^b | R ₁ = R ₃ = H; R ₂ = Bz; R ₄ = OBz | <i>E. lathyris</i> ¹⁵⁷ | anti-inflammation ¹⁵⁷ |
| | 581 | <i>Euphorbia</i> factor L ₃₀ | R ₁ = Ac; R ₂ = Cin; R ₃ = R ₄ = H | <i>E. lathyris</i> ¹⁵³ | - |
| | 582 | euplarisan J | R ₁ = R ₃ = Ac; R ₂ = Cin; R ₄ = H | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
| | 583 | euplarisan I | R ₁ = R ₃ = Ac; R ₂ = Cin; R ₄ = OBz | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
| | 584 | <i>Euphorbia</i> factor L ₃₁ | R ₁ = Ac; R ₂ = R ₄ = H; R ₃ = Cin | <i>E. lathyris</i> ¹⁵³ | - |
| | 585 | <i>Euphorbia</i> factor L ₃₂ | R ₁ = Ac; R ₂ = Bz; R ₃ = R ₄ = H | <i>E. lathyris</i> ¹⁵³ | - |
| | 586 | <i>Euphorbia</i> factor L ₃₃ | R ₁ = Ac; R ₂ = BaF; R ₃ = R ₄ = H | <i>E. lathyris</i> ¹⁵³ | - |
| 587 | - | R ₁ = R ₃ = Ac; R ₂ = Bz; R ₄ = OBz; 12,13-dihydro | <i>E. lathyris</i> ¹⁵⁴ | - | |
| 588 | - ^b | R ₁ = Ac; R ₂ = Cin; R ₃ = R ₄ = H | <i>E. lathyris</i> ¹⁵⁵ | anti-inflammation ¹⁵⁵ | |
| 589 | - | R ₁ = Ac; R ₂ = Bz; R ₃ = H; R ₄ = OAc | <i>E. lathyris</i> ¹⁵⁵ | anti-inflammation ¹⁵⁵ | |
| 590 | - | R ₁ = R ₃ = Ac; R ₂ = Bz; R ₄ = OH | <i>E. lathyris</i> ¹⁵⁵ | anti-inflammation ¹⁵⁵ | |
| 591 | - | R ₁ = Ac; R ₂ = Bz; R ₃ = H; R ₄ = OBz | <i>E. lathyris</i> ¹⁵⁶ | MDR reverser ¹⁵⁶ | |
| 592 | piscatoriol B | R ₁ = Ac; R ₂ = R ₃ = R ₄ = H | <i>E. piscatoria</i> ¹⁰⁴ | MDR reverser ¹⁰⁴ | |
| 593 | euphoetirane B | R ₁ = Ac; R ₂ = Pr; R ₃ = Ac; R ₄ = H | <i>E. boetica</i> ²⁴⁴ | MDR reverser ²⁴⁴ | |
|  | 594 | - | - | <i>E. lathyris</i> ¹⁵⁶ | - |
| |  | 595 | <i>Euphorbia</i> factor L ₂₁ | - | <i>E. lathyris</i> ¹⁵¹ |
|  <p>596–606</p> | | 596 | epoxyboetirane A | R ₁ = αH; R ₂ = R ₃ = R ₄ = Ac | <i>E. boetica</i> ²⁴⁵ |
| | 597 | epoxyboetirane B | R ₁ = αH; R ₂ = MeBu; R ₃ = R ₄ = Ac | <i>E. boetica</i> ²⁴⁵ | MDR reverser ²⁴⁵ |
| | 598 | euphordracunculin C | R ₁ = αH; R ₂ = Nic; R ₃ = R ₄ = Ac | <i>E. dracunculoides</i> ²⁴⁶ | - |
| | 599 | euplarisan K | R ₁ = αH; R ₂ = BaG; R ₃ = Ac; R ₄ = Ac | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
| | 600 | euplarisan L | R ₁ = αH; R ₂ = BaF; R ₃ = H; R ₄ = Ac | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
| | 601 | - | R ₁ = βOH; R ₂ = R ₃ = Ac; R ₄ = H | <i>E. sogdiana</i> ²⁴⁷ | cytotoxicity ²⁴⁷ |
| | 602 | - | R ₁ = βONic; R ₂ = Nic; R ₃ = Ac; R ₄ = H | <i>E. sogdiana</i> ²⁴⁷ | cytotoxicity ²⁴⁷ |
| | 603 | - | R ₁ = βOAc; R ₂ = Nic; R ₃ = MeTig; R ₄ = Ac | <i>E. sogdiana</i> ²⁴⁷ | cytotoxicity ²⁴⁷ |
| | 604 | aellinane | R ₁ = βOAc; R ₂ = R ₄ = Nic; R ₃ = Ac | <i>E. aellenii</i> ²⁴⁸ | cytotoxicity ²⁴⁸ |
| | 605 | - | R ₁ = αH; R ₂ = BaF; R ₃ = H; R ₄ = Ac | <i>E. lathyris</i> ¹⁵⁶ | MDR reverser ¹⁵⁶ |
| | 606 | <i>Euphorbia</i> factor L ₂₅ | R ₁ = αH; R ₂ = Bz; R ₃ = R ₄ = Ac | <i>E. lathyris</i> ¹⁵¹ | - |

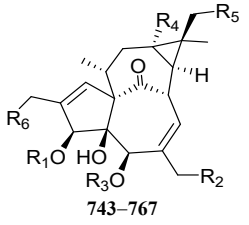
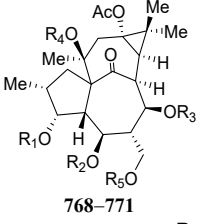
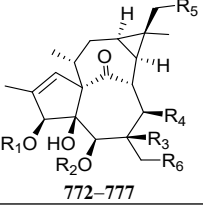
| | | | | | |
|--|-----|--|--|---|-----------------------------------|
|  <p>607–610</p> | 607 | <i>Euphorbia</i> factor L _{2a} ^b | R ₁ = βH; R ₂ = αH; Z-Δ ¹² | <i>E. lathyris</i> ¹⁵⁸ | - |
| | 608 | euphornin A ^b | R ₁ = R ₂ = βH | <i>E. lathyris</i> ¹⁵⁷ | anti-inflammation ¹⁵⁷ |
| | 609 | euphornin B ^b | R ₁ = βH; R ₂ = αH | <i>E. lathyris</i> ¹⁵⁷ | anti-inflammation ¹⁵⁷ |
| | 610 | <i>Euphorbia</i> factor L _{2b} euphornin C | R ₁ = αH; R ₂ = βH | <i>E. lathyris</i> ¹⁵⁷ | anti-inflammation ¹⁵⁷ |
| | 611 | - | R ₁ = R ₂ = R ₃ = H; R ₄ = OAc; R ₅ = Ac | <i>E. lathyris</i> ¹⁵⁵ | - |
| | 612 | - | R ₁ = BaF; R ₂ = R ₃ = H; R ₄ = OAc; R ₅ = Ac | <i>E. lathyris</i> ¹⁵⁵ | - |
| | 613 | <i>Euphorbia</i> factor L ₁₇ | R ₁ = Bz; R ₂ = R ₃ = H; R ₄ = OAc; R ₅ = Ac | <i>E. lathyris</i> ¹⁵¹ | - |
| | 614 | euphlathyrinoid A | R ₁ = Bz; R ₂ = O=; R ₃ = H; R ₄ = OH; R ₅ = Ac | <i>E. lathyris</i> ²⁴² | anticholestasis ²⁴² |
| | 615 | euphlathyrinoid B | R ₁ = R ₂ = R ₃ = R ₅ = H; R ₄ = OBz | <i>E. lathyris</i> ²⁴² | anticholestasis ²⁴² |
| | 616 | euplarisan B | R ₁ = Bz; R ₂ = αH; R ₃ = H; R ₄ = OH; R ₅ = Ac | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
|  <p>611–630</p> | 617 | euplarisan C | R ₁ = Bz; R ₂ = αOAc; R ₃ = H; R ₄ = OAc; R ₅ = Ac | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
| | 618 | euplarisan D | R ₁ = Bz; R ₂ = αOBz; R ₃ = H; R ₄ = OAc; R ₅ = Ac | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
| | 619 | <i>Euphorbia</i> factor L ₁₈ | R ₁ = BaF; R ₂ = R ₃ = H; R ₄ = OAc; R ₅ = Ac | <i>E. lathyris</i> ¹⁵¹ | - |
| | 620 | <i>Euphorbia</i> factor L ₁₉ | R ₁ = BaF; R ₂ = R ₃ = H; R ₄ = OH; R ₅ = Ac | <i>E. lathyris</i> ¹⁵¹ | - |
| | 621 | <i>Euphorbia</i> factor L ₂₂ | R ₁ = Cin; R ₂ = R ₃ = H; R ₄ = OH; R ₅ = Ac | <i>E. lathyris</i> ¹⁵¹ | - |
| | 622 | <i>Euphorbia</i> factor L ₂₃ | R ₁ = COC ₅ H ₁₁ ; R ₂ = R ₃ = H; R ₄ = OAc; R ₅ = Ac | <i>E. lathyris</i> ¹⁵¹ | - |
| | 623 | euphordraculoin A | R ₁ = R ₂ = R ₃ = R ₅ = H; R ₄ = OGlc | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| | 624 | euphordraculoin B | R ₁ = R ₂ = R ₃ = H; R ₄ = OGlc; R ₅ = Ac | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| | 625 | euphordraculoin C | R ₁ = R ₂ = R ₃ = R ₅ = H; R ₄ = 3- <i>O</i> -galloyl-Glc | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| | 626 | euphordraculoin D | R ₁ = R ₂ = R ₃ = H; R ₄ = 3- <i>O</i> -galloyl-Glc; R ₅ = Ac | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| | 627 | euphordraculoin E | R ₁ = R ₂ = R ₃ = R ₅ = H; R ₄ = 6- <i>O</i> -Rha-Glc | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| | 628 | euphordraculoin F | R ₁ = R ₂ = R ₃ = H; R ₄ = 6- <i>O</i> -Rha-Glc; R ₅ = Ac | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| | 629 | - | R ₁ = MePr; R ₂ = R ₃ = OAc; R ₄ = H; R ₅ = Ac | <i>E. laurifolia</i> ²⁴⁹ | - |
| | 630 | euplarisan A | R ₁ = Nic; R ₂ = R ₃ = H; R ₄ = OAc; R ₅ = Ac | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
|  | 631 | laurifolioside | R ₁ = βMe; R ₂ = Glc | <i>E. laurifolia</i> ²⁴⁹ | clathrin modulator ²⁴⁹ |
| | 632 | 2- <i>epi</i> -laurifolioside | R ₁ = αMe; R ₂ = Glc | <i>E. laurifolia</i> ²⁴⁹ | - |
|  <p>633–642</p> | 633 | soongalathyrone B | R ₁ = OBz; R ₂ = OH; R ₃ = R ₅ = H; R ₄ = αH | <i>E. soongarica</i> ¹⁹⁷ | - |
| | 634 | altotibetol | R ₁ = OH; R ₂ = OH; R ₃ = Ac; R ₄ = βH; R ₅ = H | <i>E. altotibetica</i> ²⁵⁰ | - |
| | 635 | euphelioscopnoid M | R ₁ = OH; R ₂ = OAc; R ₃ = Ac; R ₄ = βH; R ₅ = H | <i>E. helioscopia</i> ¹⁰⁵ | - |
| | 636 | euphelioscopnoid L | R ₁ = OAc; R ₂ = OH; R ₃ = H; R ₄ = βH; R ₅ = H; 9-βH | <i>E. helioscopia</i> ¹⁰⁵ | - |
| | 637 | 2- <i>epi</i> -latazienone | R ₁ = OMePr; R ₂ = OBz; R ₃ = R ₅ = Ac; R ₄ = βH | <i>E. laurifolia</i> ²⁵¹ | - |
| | 638 | - | R ₁ = R ₅ = OMePr; R ₂ = ONic; R ₃ = Ac; R ₄ = αH | <i>E. laurifolia</i> ²⁵¹ | - |
| | 639 | eupheliotriol A | R ₁ = OH; R ₂ = R ₃ = R ₅ = H; R ₄ = βH; 17-OH | <i>E. helioscopia</i> ⁹⁵ | - |
| | 640 | macrorrhizone A | R ₁ = O=; R ₂ = R ₃ = R ₅ = H; Δ ¹ | <i>E. macrorrhiza</i> ¹⁶⁰ | MDR reverser ¹⁶⁰ |
| | 641 | euphoscopoid C | R ₁ = OH; R ₂ = OBz; R ₃ = Ac; R ₄ = βH; R ₅ = H | <i>E. helioscopia</i> ²¹⁷ | antifeedant ²¹⁷ |
| | 642 | <i>Euphorbia</i> factor L ₂₉ | R ₁ = OH; R ₂ = R ₅ = H; R ₃ = Ac; R ₄ = αH; 17-OAc | <i>E. lathyris</i> ²⁵² | anti-inflammation ²⁵² |

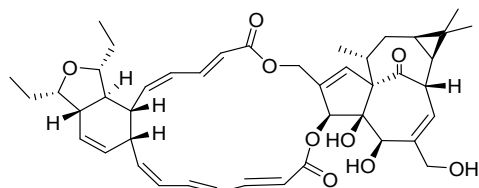
| | | | | | |
|---|-----|--|--|---------------------------------------|---|
|  | 643 | eupheliotriol B | - | <i>E. helioscopia</i> ⁹⁵ | - |
|  | 644 | euphanoid A ^b | R ₁ = R ₄ = βH; R ₂ = αOH; R ₃ = H; R ₅ = O= | <i>E. kansuensis</i> ¹⁶¹ | anti-inflammation ¹⁶¹ |
| | 645 | euphanoid B | R ₁ = αH; R ₂ = αOH; R ₃ = H; R ₄ = βH; R ₅ = O= | <i>E. kansuensis</i> ¹⁶¹ | anti-inflammation ¹⁶¹ |
| | 646 | kansuingol A | R ₁ = R ₄ = αH; R ₂ = βOH; R ₃ = H; R ₅ = OGlc | <i>E. kansui</i> ¹⁶² | anti-inflammation ¹⁶² |
| | 647 | kansuingol B | R ₁ = R ₄ = αH; R ₂ = βOH; R ₃ = Glc; R ₅ = OH | <i>E. kansui</i> ¹⁶² | anti-inflammation ¹⁶² |
| 644-647 | | | | | |
|  | 648 | soongalathryrone A | R ₁ = OBz; R ₂ = βOH; R ₃ = R ₇ = αH; R ₄ = αMe; R ₅ = R ₆ = H | <i>E. soongarica</i> ¹⁹⁷ | - |
| | 649 | euphstrachenol A | R ₁ = 2 <i>E</i> ,4 <i>Z</i> -OCO(CH=CH) ₂ C ₅ H ₁₁ ; R ₂ = R ₅ = R ₆ = H; R ₃ = βH; R ₄ = βMe; R ₇ = αH | <i>E. stracheyi</i> ²⁵³ | cytotoxicity ²⁵³ |
| | 650 | euphstrachenol B | R ₁ = 2 <i>E</i> ,4 <i>Z</i> -OCO(CH=CH) ₂ C ₅ H ₁₁ ; R ₂ = αOAc; R ₃ = βH; R ₄ = βMe; R ₅ = R ₆ = H; R ₇ = αH | <i>E. stracheyi</i> ²⁵³ | cytotoxicity ²⁵³ |
| | 651 | euphofischer A | R ₁ = OH; R ₂ = R ₆ = H; R ₃ = βH; R ₄ = αMe R ₅ = Cin; R ₇ = αH | <i>E. fischeriana</i> ²⁵⁴ | cytotoxicity ²⁵⁴ |
| | 652 | euphofischer B | R ₁ = OH; R ₂ = H; R ₃ = βH; R ₄ = αMe; R ₅ = Cin; R ₆ = OAc; R ₇ = αH | <i>E. fischeriana</i> ²⁵⁴ | - |
| | 653 | ebracteolate C | R ₁ = OH; R ₂ = R ₅ = H; R ₃ = βH; R ₄ = αMe; R ₆ = OH; R ₇ = αH | <i>E. ebracteolata</i> ¹¹⁶ | - |
| | 654 | macrorilathryrone B | R ₁ = OH; R ₂ = R ₆ = H; R ₃ = R ₇ = βH; R ₄ = αMe; R ₅ = Bz | <i>E. macrorrhiza</i> ¹⁶⁰ | MDR ¹⁶⁰ |
| | 655 | <i>Euphorbia</i> factor L ₁₂ ^b | R ₁ = OBz; R ₂ = R ₆ = H; R ₃ = R ₇ = αH; R ₄ = αMe; R ₅ = Ac | <i>E. lathyris</i> ¹⁵¹ | cytotoxicity ¹⁵¹ |
| 648-656 | | | | | |
| | 656 | <i>Euphorbia</i> factor L ₁₃ | R ₁ = OBaF; R ₂ = R ₆ = H; R ₃ = R ₇ = αH; R ₄ = αMe R ₅ = Ac | <i>E. lathyris</i> ¹⁵¹ | - |
| | 657 | euphorantin A | R ₁ = βOAc; R ₂ = Ang; R ₃ = Me; R ₄ = Ac; R ₅ = αH; R ₆ = CH ₂ OH | <i>E. antiquorum</i> ¹⁶³ | 11β-hydroxysteroid dehydrogenase inhibitor ¹⁶³ |
| | 658 | euphorantin B | R ₁ = βOAc; R ₂ = Bz; R ₃ = Me; R ₄ = Ac; R ₅ = αH; R ₆ = CH ₂ OH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 659 | euphorantin C | R ₁ = βOAc; R ₂ = Ang; R ₃ = Me; R ₄ = Ac; R ₅ = αH; R ₆ = CHO | <i>E. antiquorum</i> ¹⁶³ | - |
| | 660 | euphorantin D | R ₁ = βOAc; R ₂ = EPAng; R ₃ = R ₆ = Me; R ₄ = Ac; R ₅ = αH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 661 | euphorantin E | R ₁ = βOAc; R ₂ = EAng; R ₃ = R ₆ = Me; R ₄ = Ac; R ₅ = αH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 662 | euphorantin F | R ₁ = βOAc; R ₂ = Ac; R ₃ = R ₆ = Me; R ₄ = EAng; R ₅ = αH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 663 | euphorantin G | R ₁ = βOAc; R ₂ = HAng; R ₃ = R ₆ = Me; R ₄ = Ac; R ₅ = αH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 664 | euphorantin H | R ₁ = βOAc; R ₂ = Bz; R ₃ = R ₆ = Me; R ₄ = H; R ₅ = αH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 665 | euphorantin I | R ₁ = βOH; R ₂ = Bz; R ₃ = R ₆ = Me; R ₄ = Ac; R ₅ = αH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 666 | euphorantin J | R ₁ = βOH; R ₂ = Ang; R ₃ = R ₆ = Me; R ₄ = H; R ₅ = αH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 667 | euphorantin K | R ₁ = βOEAng; R ₂ = R ₃ = R ₄ = Ac; R ₅ = αH; R ₆ = Me | <i>E. antiquorum</i> ¹⁶³ | - |
| | 668 | euphorantin L | R ₁ = βOAc; R ₂ = R ₄ = Ac; R ₃ = EAng; R ₅ = αH; R ₆ = Me | <i>E. antiquorum</i> ¹⁶³ | - |
| | 669 | euphorantin M | R ₁ = βOAc; R ₂ = H; R ₃ = MeBu; R ₄ = Ac; R ₅ = αH; R ₆ = Me | <i>E. antiquorum</i> ¹⁶³ | - |
| | 670 | euphorantin N | R ₁ = βOH; R ₂ = R ₄ = Ac; R ₃ = MeBu; R ₅ = αH; R ₆ = Me | <i>E. antiquorum</i> ¹⁶³ | 11β-hydroxysteroid dehydrogenase inhibitor ¹⁶³ |
| | 671 | euphorantin O | R ₁ = βOAc; R ₂ = H; R ₃ = Bz; R ₄ = H; R ₅ = αH; R ₆ = Me | <i>E. antiquorum</i> ¹⁶³ | - |
| | 672 | euphorantin P | R ₁ = αOH; R ₂ = Ang; R ₃ = R ₆ = Me; R ₄ = H; R ₅ = βH | <i>E. antiquorum</i> ¹⁶³ | - |
| | 673 | euphorantin Q | R ₁ = αOH; R ₂ = Ang; R ₃ = R ₆ = Me; R ₄ = Ac; R ₅ = βH | <i>E. antiquorum</i> ¹⁶³ | - |

| | | | | |
|-----|---|---|---|---------------------------------------|
| |  | | | |
| 674 | euphorantin R | $R_1 = \alpha\text{OAc}$; $R_2 = \text{H}$; $R_3 = \text{MeBu}$; $R_4 = \text{Ac}$; $R_5 = \beta\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ¹⁶³ | - |
| 675 | euphonoid B' | $R_1 = \beta\text{OAc}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{MeBu}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ⁵² | - |
| 676 | euphonoid C' | $R_1 = \beta\text{OAc}$; $R_2 = \text{Nic}$; $R_3 = \text{Me}$; $R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ⁵² | - |
| 677 | euphonoid D' | $R_1 = \beta\text{OAc}$; $R_2 = \text{H}$; $R_3 = R_6 = \text{Me}$; $R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$ | <i>E. antiquorum</i> ⁵² | - |
| 678 | euphonoid E' | $R_1 = \beta\text{OAc}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{H}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ⁵² | - |
| 679 | euphorin C' | $R_1 = \beta\text{OAc}$; $R_2 = R_3 = \text{H}$; $R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ⁶⁹ | - |
| 680 | euphorin D' | $R_1 = \beta\text{OAc}$; $R_2 = \text{H}$; $R_3 = \text{Bz}$; $R_4 = \text{Ac}$; $R_5 = \beta\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ⁶⁹ | anti-inflammation ⁶⁹ |
| 681 | euphorin E' | $R_1 = \beta\text{OAc}$; $R_2 = \text{H}$; $R_3 = \text{Tig}$; $R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ⁶⁹ | - |
| 682 | - ^b | $R_1 = \beta\text{OAc}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{MeBu}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ⁴² | - |
| 683 | euphorantone D | $R_1 = \beta\text{OH}$; $R_2 = R_4 = \text{H}$; $R_3 = R_6 = \text{Me}$; $R_5 = \alpha\text{H}$ | <i>E. antiquorum</i> ⁴² | - |
| 684 | - | $R_1 = \beta\text{OAc}$; $R_2 = \text{Bz}$; $R_3 = R_6 = \text{Me}$; $R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$ | <i>E. antiquorum</i> ⁴² | - |
| 685 | - | $R_1 = \beta\text{OH}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{Bz}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. antiquorum</i> ⁴² | anti-osteoclastogenesis ⁴² |
| 686 | euphorblin A ^b | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaA}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ^{165,164} | lysosome inducer ¹⁶⁴ |
| 687 | euphoresin B euphoresin A | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaB}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ^{165,164} | lysosome inducer ¹⁶⁴ |
| 688 | euphorblin C | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaC}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | lysosome inducer ¹⁶⁴ |
| 689 | euphorblin D | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaB}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{OH}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | lysosome inducer ¹⁶⁴ |
| 690 | euphorblin E | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaD}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | - |
| 691 | euphorblin F | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaE}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | - |
| 692 | euphorblin G | $R_1 = \beta\text{OH}$; $R_2 = \text{BaF}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | lysosome inducer ¹⁶⁴ |
| 693 | euphorblin H | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaG}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | - |
| 694 | euphorblin I | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaH}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | lysosome inducer ¹⁶⁴ |
| 695 | euphorblin J | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaF}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{OH}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | lysosome inducer ¹⁶⁴ |
| 696 | euphorblin K | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaI}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{OH}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | lysosome inducer ¹⁶⁴ |
| 697 | euphorblin L | $R_1 = \beta\text{OAc}$; $R_2 = \text{BaI}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{CH}_2\text{OH}$ | <i>E. resinifera</i> ¹⁶⁴ | lysosome inducer ¹⁶⁴ |
| 698 | euphorblin M | $R_1 = \beta\text{OAc}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{H}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. resinifera</i> ¹⁶⁴ | - |
| 699 | euphorblin N | $R_1 = \beta\text{OAc}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{H}$; $R_5 = \alpha\text{H}$; $R_6 = \text{CH}(\text{OMe})_2$ | <i>E. resinifera</i> ¹⁶⁴ | - |
| 700 | euphopepluanone D | $R_1 = \beta\text{OAc}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{MeBu}$; $R_5 = \beta\text{H}$; $R_6 = \text{Me}$ | <i>E. peplus</i> ¹⁴⁶ | - |
| 701 | euphopepluanone E | $R_1 = \beta\text{OAc}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{Ang}$; $R_5 = \beta\text{H}$; $R_6 = \text{Me}$ | <i>E. peplus</i> ¹⁴⁶ | - |
| 702 | euphorantin S | $R_1 = \beta\text{OH}$; $R_2 = R_4 = \text{Ac}$; $R_3 = \text{H}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. neriiifolia</i> ⁶⁸ | - |
| 703 | euphorantin T | $R_1 = \beta\text{OH}$; $R_2 = \text{Ang}$; $R_3 = R_4 = \text{H}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. neriiifolia</i> ⁶⁸ | - |
| 704 | - | $R_1 = \beta\text{OTig}$; $R_2 = \text{Bz}$; $R_3 = R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. royleana</i> ²⁵⁵ | - |
| 705 | - | $R_1 = \beta\text{OBz}$; $R_2 = \text{Bz}$; $R_3 = \text{Tig}$; $R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. royleana</i> ²⁵⁵ | - |
| 706 | - | $R_1 = \beta\text{OAc}$; $R_2 = \text{Bz}$; $R_3 = \text{Tig}$; $R_4 = \text{Ac}$; $R_5 = \alpha\text{H}$; $R_6 = \text{Me}$ | <i>E. royleana</i> ²⁵⁵ | - |
| 707 | euphornan A ^b | $R_1 = \alpha\text{OAc}$; $R_2 = \text{Ac}$; $R_3 = \text{Ac}$; $R_4 = \text{Nic}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | - |
| 708 | euphornan B | $R_1 = \alpha\text{OAc}$; $R_2 = \text{Ac}$; $R_3 = \text{Bz}$; $R_4 = \text{Nic}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ |
| 709 | euphornan C | $R_1 = \alpha\text{OAc}$; $R_2 = \text{Nic}$; $R_3 = \text{Ac}$; $R_4 = \text{Nic}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ |
| 710 | euphornan D | $R_1 = \alpha\text{OAc}$; $R_2 = \text{Ac}$; $R_3 = \text{MePr}$; $R_4 = \text{Nic}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ |
| 711 | euphornan E | $R_1 = \alpha\text{OAc}$; $R_2 = \text{Ac}$; $R_3 = \text{MeBu}$; $R_4 = \text{Nic}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ |
| 712 | euphornan F | $R_1 = \alpha\text{OAc}$; $R_2 = \text{H}$; $R_3 = \text{Bz}$; $R_4 = \text{Nic}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ |
| 713 | euphornan G | $R_1 = \alpha\text{OH}$; $R_2 = \text{Ac}$; $R_3 = \text{Bz}$; $R_4 = \text{Nic}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ |
| 714 | euphornan H | $R_1 = \alpha\text{OH}$; $R_2 = \text{Bz}$; $R_3 = \text{Ac}$; $R_4 = \text{Nic}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ |
| 715 | euphornan I | $R_1 = \alpha\text{OAc}$; $R_2 = R_3 = \text{Ac}$; $R_4 = \text{Bz}$; $R_5 = \beta\text{H}$ | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ |

| | | | | | | |
|--|--|---|---|--|---|----------------------------------|
|  <p>707-729</p> | 716 | euphorban J | R ₁ = αOAc; R ₂ = Ac; R ₃ = R ₄ = Bz; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 717 | euphorban K ^b | R ₁ = αOAc; R ₂ = Bz; R ₃ = Ac; R ₄ = Bz; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 718 | euphorban L | R ₁ = αOAc; R ₂ = Ac; R ₃ = MePr; R ₄ = Bz; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 719 | euphorban M | R ₁ = αOAc; R ₂ = Ac; R ₃ = MeBu; R ₄ = Bz; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 720 | euphorban N | R ₁ = αOAc; R ₂ = H; R ₃ = R ₄ = Bz; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 721 | euphorban O | R ₁ = αOH; R ₂ = Ac; R ₃ = R ₄ = Bz; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 722 | euphorban P | R ₁ = αOH; R ₂ = R ₄ = Bz; R ₃ = Ac; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 723 | euphorban Q | R ₁ = αOAc; R ₂ = R ₄ = Ac; R ₃ = Bz; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 724 | euphorban R | R ₁ = αOAc; R ₂ = Bz; R ₃ = R ₄ = Ac; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| | 725 | euphorban S | R ₁ = αOAc; R ₂ = Nic; R ₃ = R ₄ = Ac; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | |
| 726 | euphorban T | R ₁ = αOAc; R ₂ = R ₄ = Ac; R ₃ = MeBu; R ₅ = βH | <i>E. marginata</i> ¹⁶⁶ | MDR reverser ¹⁶⁶ | | |
|  | 727 | saudiarabicaïn C | R ₁ = αOH; R ₂ = R ₃ = Tig; R ₄ = Ac; R ₅ = βH; <i>E</i> -Δ ⁵ | <i>E. saudiarabica</i> ¹⁶⁷ | α-glucosidase inhibitor; ¹⁶⁷ | |
| | 728 | saudiarabicaïn D | R ₁ = αOH; R ₂ = Tig; R ₃ = Bz; R ₄ = Ac; R ₅ = βH; <i>E</i> -Δ ⁵ | <i>E. saudiarabica</i> ¹⁶⁷ | α-glucosidase inhibitor; MDR reverser ¹⁶⁷ | |
| | 729 | saudiarabicaïn E | R ₁ = βOAc; R ₂ = BaB; R ₃ = R ₄ = Ac; R ₅ = αH; <i>E</i> -Δ ⁵ | <i>E. saudiarabica</i> ¹⁶⁷ | α-glucosidase inhibitor; MDR reverser ¹⁶⁷ | |
| | 730 | saudiarabicaïn A | R = Tig | <i>E. saudiarabica</i> ¹⁶⁷ | MDR reverser ¹⁶⁷ | |
| | 731 | saudiarabicaïn B | R = Bz | <i>E. saudiarabica</i> ¹⁶⁷ | MDR reverser ¹⁶⁷ | |
| |  <p>732-738</p> | 732 | - | R ₁ = Bz; R ₂ = Ac; R ₃ = OAc; R ₄ = H | <i>E. lathyris</i> ¹⁵⁵ | - |
| | | 733 | euphathyrinoid E | R ₁ = R ₂ = Ac; R ₃ = OAc; R ₄ = H; | <i>E. lathyris</i> ²⁴² | anticholestasis ²⁴² |
| | | 734 | piscatoriol A | R ₁ = R ₂ = R ₃ = H; R ₄ = Ac | <i>E. piscatoria</i> ¹⁰⁴ | MDR reverser ¹⁰⁴ |
| | | 735 | - | R ₁ = Nic; R ₂ = R ₄ = Ac; R ₃ = OAc | <i>E. lathyris</i> ¹⁵⁶ | MDR reverser ¹⁵⁶ |
| | | 736 | euplarisan G | R ₁ = Nic; R ₂ = R ₄ = Ac; R ₃ = OAc | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
| 737 | | <i>Euphorbia</i> factor L ₂₀ | R ₁ = Bz; R ₂ = H; R ₃ = OAc; R ₄ = Ac | <i>E. lathyris</i> ¹⁵¹ | - | |
| 738 | | <i>Euphorbia</i> factor L ₂₄ | R ₁ = Bz; R ₂ = R ₄ = Ac; R ₃ = OH | <i>E. lathyris</i> ¹⁵¹ | - | |
|  | | 739 | ekanpenoid A | R = O= | <i>E. kansuensis</i> ¹⁶⁸ | cytotoxicity ¹⁶⁸ |
| | 740 | ekanpenoid B | R = 2H | <i>E. kansuensis</i> ¹⁶⁸ | cytotoxicity ¹⁶⁸ | |
|  | 741 | euplarisan E ^b | R = H | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ | |
| | 742 | euplarisan F | R = Bz | <i>E. lathyris</i> ²⁴³ | - | |

Ingenanes

| | | | | | |
|--|------------|------------------|--|---------------------------------------|----------------------------------|
| | 743 | stracheyioid B | $R_1 = \text{Ac}; R_2 = \text{OAc}; R_4 = R_5 = R_6 = \text{H}; R_3 = 2Z, 4Z\text{-CO}(\text{CH}=\text{CH})_2(\text{CH}_2)_4\text{CH}_3$ | <i>E. stracheyi</i> ⁸⁷ | - |
| | 744 | euphstrachenol C | $R_1 = \text{Ac}; R_2 = \text{OAc}; R_4 = R_5 = R_6 = \text{H}; R_3 = 2E, 4E, 6E\text{-CO}(\text{CH}=\text{CH})_3(\text{CH}_2)_2\text{CH}_3$ | <i>E. stracheyi</i> ²⁵³ | cytotoxicity ²⁵³ |
| | 745 | euphorkan A | $R_1 = \text{Ac}; R_2 = \text{OAc}; R_3 = R_5 = R_6 = \text{H}; R_4 = \text{OCO}(\text{CH}_2)_{10}\text{CH}_3$ | <i>E. kansui</i> ²⁵⁶ | anti-inflammation ²⁵⁶ |
| | 746 | euphorkan B | $R_1 = R_3 = \text{Ac}; R_2 = \text{ODMBu}; R_4 = \text{OCO}(\text{CH}_2)_{10}\text{CH}_3; R_5 = R_6 = \text{H}$ | <i>E. kansui</i> ²⁵⁶ | anti-inflammation ²⁵⁶ |
| | 747 | - | $R_1 = \text{Glc}; R_2 = R_3 = R_4 = R_6 = \text{H}; R_5 = \text{OH}$ | <i>E. laurifolia</i> ²⁴⁹ | - |
| | 748 | eurifoloid A | $R_1 = R_2 = R_4 = R_6 = \text{H}; R_3 = \text{Ang}; R_5 = \text{OTig}$ | <i>E. neriiifolia</i> ⁷¹ | - |
| | 749 | eurifoloid B | $R_1 = \text{Ac}; R_2 = R_4 = R_6 = \text{H}; R_3 = \text{Ang}; R_5 = \text{OH}$ | <i>E. neriiifolia</i> ⁷¹ | - |
| | 750 | sikkimenoid E | $R_1 = \text{Ac}; R_2 = 2E, 4E\text{-OCO}(\text{CH}=\text{CH})_2(\text{CH}_2)_4\text{CH}_3;$ $R_3 = 2E, 4Z\text{-CO}(\text{CH}=\text{CH})_2\text{CH}_3; R_4 = R_5 = R_6 = \text{H}$ | <i>E. sikkimensis</i> ²⁵⁷ | - |
|  <p>743–767</p> | 751 | euphonoid A' | $R_1 = \text{Tig}; R_2 = R_3 = R_4 = R_6 = \text{H}; R_5 = \text{OAng}$ | <i>E. antiquorum</i> ⁵² | anti-melanogenesis ⁵² |
| | 752 | - | $R_1 = \text{Bz}; R_2 = \text{OH}; R_3 = R_4 = R_6 = \text{H}; R_5 = \text{OBz}$ | <i>E. esula</i> ¹³⁸ | - |
| | 753 | - | $R_1 = \text{Bz}; R_2 = \text{OAc}; R_4 = R_5 = \text{OBz}; R_3 = R_6 = \text{H}$ | <i>E. esula</i> ¹³⁸ | anti-osteoporotic ¹³⁸ |
| | 754 | - | $R_1 = \text{Ang}; R_2 = R_3 = R_4 = R_6 = \text{H}; R_5 = \text{OTig}$ | <i>E. royleana</i> ⁹³ | anti-inflammation ⁹³ |
| | 755 | - | $R_1 = \text{Ang}; R_2 = R_3 = R_4 = R_6 = \text{H}; R_5 = \text{OBz}$ | <i>E. royleana</i> ⁹³ | anti-inflammation ⁹³ |
| | 756 | euphodefexin L | $R_1 = \text{Ang}; R_2 = R_3 = R_6 = \text{H}; R_4 = \text{OAc}; R_5 = \text{OAng}$ | <i>E. deflexa</i> ¹⁹⁰ | cytotoxicity ¹⁹⁰ |
| | 757 | - | $R_2 = \text{OH}; R_3 = R_4 = R_5 = R_6 = \text{H}; R_1 = 9Z\text{-CO}(\text{CH}_2)_7\text{CH}=\text{CH}(\text{CH}_2)_5\text{CH}_3$ | <i>E. ebracteolata</i> ²⁵⁸ | anti-HIV ²⁵⁸ |
| | 758 | - | $R_2 = \text{OH}; R_3 = R_4 = R_5 = R_6 = \text{H}; R_1 = 9E\text{-CO}(\text{CH}_2)_7\text{CH}=\text{CH}(\text{CH}_2)_5\text{CH}_3$ | <i>E. ebracteolata</i> ²⁵⁸ | anti-HIV ²⁵⁸ |
| | 759 | - | $R_1 = R_3 = R_4 = R_5 = \text{H}; R_2 = \text{OH}; R_6 = \text{OGlc}$ | <i>E. ebracteolata</i> ⁶⁶ | - |
| | 760 | kansuinol A | $R_1 = \text{DMBu}; R_2 = \text{OH}; R_3 = R_4 = R_5 = R_6 = \text{H}$ | <i>E. kansui</i> ²⁵⁹ | MDR reverser ²⁵⁹ |
| | 761 | kansuinol B | $R_1 = R_3 = R_4 = R_5 = R_6 = \text{H}; R_2 = \text{ODMBu}$ | <i>E. kansui</i> ²⁵⁹ | MDR reverser ²⁵⁹ |
| | 762 | euphoroylean C | $R_1 = \text{Ang}; R_3 = \text{Bz}; R_5 = \text{OTig}; R_2 = R_4 = R_6 = \text{H}$ | <i>E. royleana</i> ⁸³ | - |
| | 763 | euphoroylean D | $R_1 = \text{Ang}; R_3 = \text{Ac}; R_5 = \text{OTig}; R_2 = R_4 = R_6 = \text{H}$ | <i>E. royleana</i> ⁸³ | - |
| | 764 | euphoroylean E | $R_1 = R_4 = R_5 = R_6 = \text{H}; R_2 = \text{OAc}; R_3 = \text{Ang}$ | <i>E. royleana</i> ⁸³ | - |
| | 765 | euphoglonane A | $R_1 = R_2 = R_3 = R_5 = R_6 = \text{H}; R_4 = \text{OBz}$ | <i>E. glomerulans</i> ²²² | MDR reverser ²²² |
| | 766 | euphoglonane B | $R_1 = R_2 = R_5 = R_6 = \text{H}; R_3 = \text{Bz}; R_4 = \text{OBz}$ | <i>E. glomerulans</i> ²²² | MDR reverser ²²² |
| | 767 | euphoglonane C | $R_1 = \text{Bz}; R_2 = R_3 = R_5 = R_6 = \text{H}; R_4 = \text{OBz}$ | <i>E. glomerulans</i> ²²² | MDR reverser ²²² |
|  <p>768–771</p> | 768 | - | $R_1 = R_4 = R_5 = \text{H}; R_2 = \text{OAc}; R_3 = \text{Ang}$ | <i>E. erythradenia</i> ¹⁶⁹ | cytotoxicity ¹⁶⁹ |
| | 769 | - | $R_1 = \text{Pr}; R_2 = \text{Ang}; R_3 = \text{Ac}; R_4 = \text{H}; R_5 = \text{Nic}$ | <i>E. erythradenia</i> ¹⁶⁹ | cytotoxicity ²⁶⁰ |
| | 770 | - | $R_1 = \text{Pr}; R_2 = \text{Ac}; R_3 = \text{Bz}; R_4 = \text{H}; R_5 = \text{Nic}$ | <i>E. erythradenia</i> ¹⁶⁹ | cytotoxicity ¹⁶⁹ |
| | 771 | - | $R_1 = \text{Bu}; R_2 = \text{Ang}; R_3 = R_5 = \text{H}; R_4 = \text{Nic}$ | <i>E. erythradenia</i> ¹⁶⁹ | cytotoxicity ¹⁶⁹ |
|  <p>772–777</p> | 772 | - | $R_1 = R_2 = R_5 = \text{H}; R_3 + R_4 = \text{O}; R_6 = \text{OH}$ | <i>E. lathyris</i> ²⁶¹ | - |
| | 773 | - | $R_1 = \text{COC}_{14}\text{H}_{29}; R_2 = R_5 = \text{H}; R_3 + R_4 = \text{O}; R_6 = \text{OH}$ | <i>E. fischeriana</i> ⁹⁸ | cytotoxicity ⁹⁸ |
| | 774 | euphorksol A | $R_1 = \text{Ac}; R_2 = \text{Bz}; R_3 + R_4 = \text{O}; R_5 = R_6 = \text{H}$ | <i>E. kansui</i> ²²⁸ | MDR reverser ²²⁸ |
| | 775 | kansuingenol A | $R_1 = R_5 = R_6 = \text{H}; R_2 = \text{Bz}; R_3 = R_4 = \text{OH}$ | <i>E. kansui</i> ¹⁴² | cytotoxicity ¹⁴² |
| | 776 | kansuingenol B | $R_1 = \text{Ac}; R_2 = \text{Bz}; R_3 = R_4 = \text{OH}; R_5 = R_6 = \text{H}$ | <i>E. kansui</i> ¹⁴² | cytotoxicity ¹⁴² |
| | 777 | kansuingenol C | $R_1 = R_6 = \text{H}; R_2 = \text{Bz}; R_3 = R_4 = R_5 = \text{OH}$ | <i>E. kansui</i> ¹⁴² | cytotoxicity ¹⁴² |

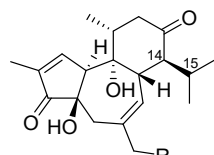


778 euphorkanlide A -

*E. kansuensis*¹⁷⁰

cytotoxicity¹⁷⁰

Rhamnofolanes



779 euphopiloside A

R₁ = OGlc

*E. pilosa*⁹⁹

α-glucosidase inhibitor¹¹²

780 -

R = *O*-6-galloyl-Glc

*E. fischeriana*¹¹²

α-glucosidase inhibitor¹¹²

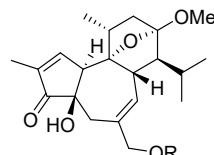
781 -

R = OGlc; Δ¹⁴⁽¹⁵⁾

*E. ebracteolata*⁶⁶

carboxylesterase 2 inhibition⁶⁶

779–781



782 euphopiloside B

R = Glc

*E. pilosa*⁹⁹

-

783 fischerianin A

R = H

*E. fischeriana*¹⁷²

cytotoxicity¹⁷²

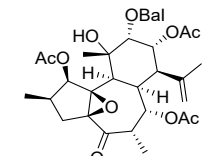
784 fischerianin B

R = Ac

*E. fischeriana*¹⁷²

cytotoxicity¹⁷²

782–784



785 euphorblin O

-

*E. resinifera*¹⁶⁴

-

Tiglianes

786 -

R₁ = αH; R₂ = Me; R₃ = OBz; R₄ = OMePr; R₅ = R₆ = R₇ = H; R₈ = OH

*E. bupleuroides*²⁶²

-

787 euphodendriane B

R₁ = αH; R₂ = Me; R₃ = OBz; R₄ = OAc; R₅ = R₆ = H; R₇ = βOH; R₈ = OH

*E. usambarica*⁴⁸

-

788 -

R₁ = βOH; R₂ = CH₂OH; R₃ = R₅ = R₆ = R₇ = H;

*E. fischeriana*¹⁰¹

lysosomal enzyme¹⁰¹

R₄ = OCO(CH₂)₁₀CHCH₃CH₂CH₃; R₈ = OH

789 -

R₁ = βOH; R₂ = CH₂OH; R₃ = H = R₅ = R₆ = R₇ = H;

*E. fischeriana*¹⁷³

-

R₄ = 7Z-OCO(CH₂)₅CH=CHC₈H₁₇; R₈ = OH

790 -

R₁ = βOH; R₂ = CH₂OH; R₃ = R₅ = R₆ = R₇ = H; R₈ = OH;

*E. fischeriana*¹⁷³

-

R₄ = 9Z,13Z-OCO(CH₂)₇CH=CHCH₂CH=CHC₅H₁₁

791

R₁ = βOH; R₂ = CH₂OH; R₃ = R₅ = R₆ = R₇ = H; R₄ = 6Z-OCO(CH₂)₄CH=CHC₁₁H₂₃; R₈ = OH

*E. fischeriana*¹⁷³

-

792 9-deoxy-11β-hydroxy prostratin

R₁ = βOH; R₂ = CH₂OH; R₃ = R₅ = R₇ = R₈ = H; R₄ = OAc; R₆ = OH

*E. fischeriana*⁹²

-

793 -

R₁ = βOH; R₂ = CH₂OH; R₃ = R₆ = R₇ = H; R₄ = OAcPh; R₅ = OMePr; R₈ = OH

*E. resinifera*²⁶³

neurogenesis²⁶³

794 -

R₁ = βOH; R₂ = CH₂OH; R₃ = R₆ = R₇ = H; R₄ = OAcPh; R₅ = OTig; R₈ = OH

*E. resinifera*²⁶³

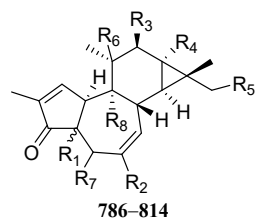
neurogenesis²⁶³

795 20-oxo-prostratin

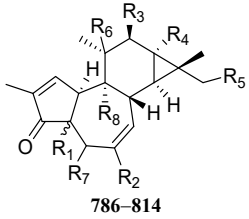
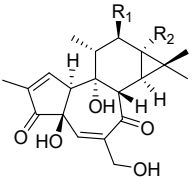
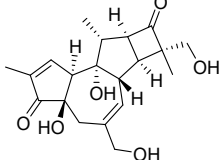
R₁ = βOH; R₂ = CO₂H; R₃ = R₅ = R₆ = R₇ = H; R₄ = OAc; R₈ = OH

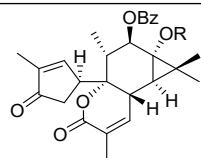
*E. fischeriana*⁹²

-



786–814

| | | | | | |
|---|------------|---|--|---|---|
| | 796 | prostratin 20- <i>O</i> -(4'-galloyl)-glucopyranoside | $R_1 = \beta\text{OH}; R_2 = \text{CH}_2\text{OGlc-4-}O\text{-galloyl}; R_3 = R_5 = R_6 = R_7 = \text{H}; R_4 = \text{OAc}; R_8 = \text{OH}$ | <i>E. fischeriana</i> ⁹² | - |
| | 797 | prostratin 20- <i>O</i> -(3'-galloyl)-glucopyranoside | $R_1 = \beta\text{OH}; R_2 = \text{CH}_2\text{OGlc-3-}O\text{-galloyl}; R_3 = R_5 = R_6 = R_7 = \text{H}; R_4 = \text{OAc}; R_8 = \text{OH}$ | <i>E. fischeriana</i> ⁹² | - |
| | 798 | prostratin 20- <i>O</i> -(6'-acetate)-glucopyranoside | $R_1 = \beta\text{OH}; R_2 = \text{CH}_2\text{OGlc-6-}O\text{-Ac}; R_3 = R_5 = R_6 = R_7 = \text{H}; R_4 = \text{OAc}; R_8 = \text{OH}$ | <i>E. fischeriana</i> ¹⁷⁴ | cytotoxicity ¹⁷⁴ |
| | 799 | - | $R_1 = \beta\text{OH}; R_2 = \text{Me}; R_3 = R_6 = R_7 = \text{H}; R_4 = \text{OMePr}; R_5 = \text{OAng}; R_8 = \text{OH}$ | <i>E. grandicornis</i> ²⁶⁴ | - |
| | 800 | - | $R_1 = \beta\text{OH}; R_2 = \text{CH}_2\text{OAc}; R_3 = R_6 = R_7 = \text{H}; R_4 = \text{OMePr}; R_5 = \text{OH}; R_8 = \text{OH}$ | <i>E. grandicornis</i> ²⁶⁴ | - |
| | 801 | - | $R_1 = \alpha\text{H}; R_2 = \text{CH}_2\text{OH}; R_3 = \text{OTig}; R_4 = \text{OMePr}; R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. semiperfoliata</i> ²³⁷ | antivirus ²³⁷ |
| | 802 | - | $R_1 = \beta\text{H}; R_2 = \text{CHO}; R_3 = \text{OTig}; R_4 = \text{OMePr}; R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. semiperfoliata</i> ²³⁷ | antivirus ²³⁷ |
| | 803 | - | $R_1 = \beta\text{H}; R_2 = \text{CH}_2\text{OH}; R_3 = \text{OAc}; R_4 = \text{OMePr}; R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. semiperfoliata</i> ²³⁷ | antivirus ²³⁷ |
| | 804 | - | $R_1 = \beta\text{H}; R_2 = \text{CH}_2\text{OH}; R_4 = \text{OMePr}; R_3 = 2Z,4E\text{-OCO}(\text{CH}=\text{CH})_2(\text{CH}_2)_4\text{CH}_3;$ $R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. dendroides</i> ²⁶⁵ | antivirus ²⁶⁵ |
| | 805 | - | $R_1 = \beta\text{H}; R_2 = \text{CH}_2\text{OH}; R_3 = 2Z,4E,6E\text{-OCO}(\text{CH}=\text{CH})_3\text{C}_3\text{H}_7; R_4 = \text{OMePr};$ $R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. dendroides</i> ²⁶⁵ | antivirus ²⁶⁵ |
| | 806 | - | $R_1 = \beta\text{H}; R_2 = \text{CH}_2\text{OH}; R_3 = 2Z,4E\text{-OCO}(\text{CH}=\text{CH})_2\text{C}_3\text{H}_7; R_4 = \text{OMePr};$ $R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. dendroides</i> ²⁶⁵ | antivirus ²⁶⁵ |
| | 807 | - | $R_1 = \beta\text{H}; R_2 = \text{CH}_2\text{OH}; R_4 = \text{OMePr}; R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH};$ $R_3 = 2Z,4E,7Z\text{-OCO}(\text{CH}=\text{CH})_2\text{CH}_2\text{CH}=\text{CHC}_2\text{H}_5$ | <i>E. dendroides</i> ²⁶⁵ | antivirus ²⁶⁵ |
| | 808 | - | $R_1 = \beta\text{OH}; R_2 = \text{CH}_2\text{OH}; R_4 = \text{OMePr}; R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH};$ $R_3 = 2E,4Z\text{-OCO}(\text{CH}=\text{CH})_2\text{C}_5\text{H}_{11}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| | 809 | - | $R_1 = \beta\text{OH}; R_2 = \text{CH}_2\text{OH}; R_4 = \text{OVal}; R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH};$ $R_3 = 2E,4Z\text{-OCO}(\text{CH}=\text{CH})_2\text{C}_5\text{H}_{11}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| | 810 | - | $R_1 = \beta\text{OH}; R_2 = \text{CH}_2\text{OH}; R_3 = 2Z,4E\text{-OCO}(\text{CH}=\text{CH})_2\text{C}_5\text{H}_{11}; R_4 = \text{OMePr};$ $R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| | 811 | - | $R_1 = \beta\text{H}; R_2 = \text{Me}; R_3 = \text{OBz}; R_4 = \text{OMePr}; R_5 = R_6 = \text{H}; R_7 = R_8 = \text{OH}$ | <i>E. dracunculoides</i> ²⁶⁶ | - |
| | 812 | - | $R_1 = \beta\text{H}; R_2 = \text{Me}; R_3 = \text{OAc}; R_4 = \text{OMePr}; R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. clementei</i> ²⁶⁷ | cytotoxicity ²⁶⁷ |
| | 813 | - | $R_1 = \beta\text{OH}; R_2 = \text{CH}_2\text{OH}; R_3 = R_6 = R_7 = \text{H}; R_4 = \text{OAc}; R_5 = \text{OGlc}; R_8 = \text{OH}$ | <i>E. ebracteolata</i> ⁶⁶ | - |
| | 814 | 4 β -crotignoid K | $R_1 = \beta\text{H}; R_2 = \text{CH}_2\text{OH}; R_3 = \text{OBz}; R_4 = \text{OAc}; R_5 = R_6 = R_7 = \text{H}; R_8 = \text{OH}$ | <i>E. usambarica</i> ⁴⁸ | anti-HIV ⁴⁸ |
|  | | | | | |
| | 815 | wallichiioid A | $R_1 = \text{OH}; R_2 = \text{OAc}$ | <i>E. wallichii</i> ¹⁷⁵ | - |
|  | 816 | - | $R_1 = 2Z,4E\text{-OCO}(\text{CH}=\text{CH})_2(\text{CH}_2)_4\text{CH}_3; R_2 = \text{OMePr}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
|  | 817 | - | - | <i>E. ebracteolata</i> ⁶⁶ | carboxylesterase 2 inhibition ⁶⁶ |



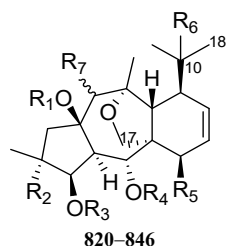
818 euphordraculoate A
819 euphordraculoate C

R = MePr
R = Ac

*E. dracunculoides*¹⁷⁷
*E. usambarica*⁴⁸

-
-

Myrsinanes

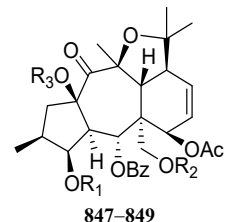


820 -
821 euphordracunculin A
822 euphordracunculin B
823 -
824 euphordraculoin M
825 prolifepene C
826 prolifepene D
827 prolifepene E
828 prolifepene F
829 eupholiferinol C^b
830 eupholiferinol D
831 eupholiferinol E
832 eupholiferinol F
833 euphorbialoid N
834 falcatin A
835 falcatin B
836 falcatin C
837 -
838 -
839 -
840 -
841 -_b
842 -_b
843 -
844 -
845 -
846 -

R₁ = Nic; R₂ = R₅ = R₆ = OAc; R₃ = R₄ = Ac; R₇ = αOBz
R₁ = R₃ = R₄ = Ac; R₂ = R₅ = R₆ = OAc; R₇ = αOBz
R₁ = R₄ = Ac; R₂ = OH; R₃ = Pr; R₅ = R₆ = OAc; R₇ = αOBz
R₁ = R₄ = Ac; R₂ = R₅ = OAc; R₃ = Pr; R₇ = αOBz; Δ¹⁰⁽¹⁸⁾
R₁ = R₄ = Ac; R₂ = OMePr; R₃ = Pr; R₅ = OAc; R₆ = OH; R₇ = αOBz
R₁ = R₄ = Ac; R₂ = H; R₃ = Bu; R₅ = OAc; R₇ = αONic; Δ¹⁰⁽¹⁸⁾
R₁ = R₄ = Ac; R₂ = H; R₃ = Nic; R₅ = OBz; R₇ = αONic; Δ¹⁰⁽¹⁸⁾
R₁ = R₄ = Ac; R₂ = H; R₃ = Pr; R₅ = OAc; R₇ = αONic; Δ¹⁰⁽¹⁸⁾
R₁ = R₄ = Ac; R₂ = H; R₃ = Bu; R₅ = ONic; R₇ = αOAc; Δ¹⁰⁽¹⁸⁾
R₁ = R₄ = Ac; R₂ = H; R₃ = Bu; R₅ = R₆ = OAc; R₇ = βOAc
R₁ = R₄ = Ac; R₂ = H; R₃ = Pr; R₅ = R₆ = OAc; R₇ = βOAc
R₁ = R₄ = Ac; R₂ = H; R₃ = Bz; R₅ = R₆ = OAc; R₇ = αONic
R₁ = R₃ = R₄ = Ac; R₂ = OH; R₅ = R₆ = OAc; R₇ = αOBz
R₁ = R₃ = R₄ = Ac; R₂ = H; R₅ = O=; R₆ = OAc; R₇ = βONic
R₁ = R₄ = Ac; R₂ = H; R₃ = Bz; R₅ = O=; R₆ = OAc; R₇ = βOAc
R₁ = R₄ = Ac; R₂ = H; R₃ = Pr; R₅ = O=; R₆ = OAc; R₇ = βOAc
R₁ = R₄ = Ac; R₂ = H; R₃ = MePr; R₅ = O=; R₆ = OAc; R₇ = βOAc
R₁ = R₂ = H; R₃ = Pr; R₄ = Ac; R₅ = OAc; R₇ = βOBz; Δ¹⁰⁽¹⁸⁾
R₁ = R₃ = Ac; R₂ = R₄ = H; R₅ = OBz; R₇ = βOBz; Δ¹⁰⁽¹⁸⁾
R₁ = Ac; R₂ = R₄ = H; R₃ = Pr; R₅ = OBz; R₇ = βOBz; Δ¹⁰⁽¹⁸⁾
R₁ = R₂ = H; R₃ = Ac; R₄ = Bz; R₅ = OAc; R₇ = βOBz; Δ¹⁰⁽¹⁸⁾
R₁ = R₄ = Ac; R₂ = H; R₃ = Pr; R₅ = ONic; R₇ = βOBz; Δ¹⁰⁽¹⁸⁾
R₁ = R₃ = R₄ = Ac; R₂ = H; R₅ = R₆ = OAc; R₇ = βOBz
R₁ = R₃ = R₄ = Ac; R₂ = OBz; R₅ = R₆ = OAc; R₇ = O=
R₁ = R₃ = R₄ = Ac; R₂ = H; R₅ = OAc; R₇ = βOAc; Δ¹⁰⁽¹⁸⁾
R₁ = R₃ = R₄ = Ac; R₂ = H; R₅ = OAc; R₇ = βOAc; 17-OAc; Δ¹⁰⁽¹⁸⁾
R₁ = R₃ = Ac; R₂ = H; R₄ = Pr; R₅ = OAc; R₇ = βOAc; Δ¹⁰⁽¹⁸⁾

*E. dracunculoides*¹⁷⁸
*E. dracunculoides*¹⁷⁹
*E. dracunculoides*¹⁷⁹
*E. dracunculoides*¹⁸⁰
*E. dracunculoides*¹⁵⁹
*E. prolifera*¹⁸¹
*E. prolifera*¹⁸¹
*E. prolifera*¹⁸¹
*E. prolifera*¹⁸¹
*E. prolifera*¹⁸²
*E. prolifera*¹⁸²
*E. prolifera*¹⁸²
*E. prolifera*¹⁸²
*E. prolifera*¹⁸²
*E. prolifera*¹⁸³
*E. falcata*¹⁸⁴
*E. falcata*¹⁸⁴
*E. falcata*¹⁸⁴
*E. pithyusa*²⁶⁸
*E. cupanii*¹⁷⁶
*E. cupanii*¹⁷⁶
*E. cupanii*¹⁷⁶
*E. cupanii*¹⁷⁶
*E. cupanii*¹⁷⁶
*E. cupanii*¹⁷⁶
*E. cupanii*¹⁷⁶
*E. boetica*²⁶⁹
*E. boetica*²⁶⁹
*E. connata*¹³⁷

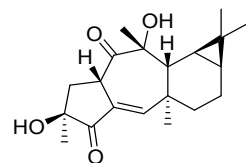
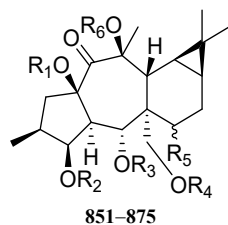
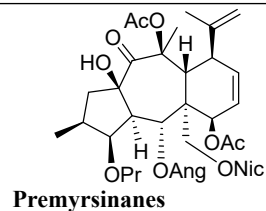
-
-
-
-
-
-
anti-fungus¹⁸¹
anti-fungus¹⁸¹
anti-fungus¹⁸¹
anti-fungus¹⁸¹
antiadipogenesis¹⁸²
antiadipogenesis¹⁸²
antiadipogenesis¹⁸²
antiadipogenesis¹⁸²
-
K⁺ channel blocker¹⁸⁴
K⁺ channel blocker¹⁸⁴
K⁺ channel blocker¹⁸⁴
antivirus²⁶⁸
-
-
-
-
-
-
-
-
-
-
cytotoxicity, apoptosis²⁷⁰



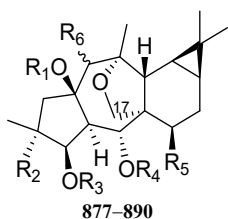
847 falcatin D R₁ = Pr; R₂ = MePr; R₃ = Ac
848 falcatin E R₁ = MePr; R₂ = R₃ = Ac
849 falcatin F R₁ = R₂ = MePr; R₃ = H

*E. falcata*¹⁸⁴
*E. falcata*¹⁸⁴
*E. falcata*¹⁸⁴

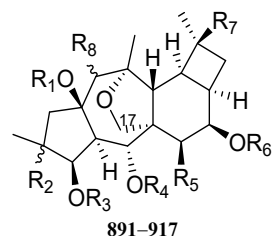
K⁺ channel blocker¹⁸⁴
K⁺ channel blocker¹⁸⁴
K⁺ channel blocker¹⁸⁴



| | | | | | |
|-----|-----------------------|--|---|---|---|
| 850 | - | - | - | <i>E. erythradenia</i> ¹⁶⁹ | - |
| 851 | - | R ₁ = H; R ₂ = MePr; R ₃ = Bz; R ₄ = Nic; R ₅ = βOAc; R ₆ = Ac | | <i>E. dracunculoides</i> ²⁷¹ | - |
| 852 | euphordraculoin J | R ₁ = R ₆ = H; R ₂ = Pr; R ₃ = R ₄ = Bz; R ₅ = βOAc | | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| 853 | euphordraculoin K | R ₁ = R ₆ = H; R ₂ = Pr; R ₃ = Bz; R ₄ = Ac; R ₅ = βOAc | | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| 854 | euphordraculoin L | R ₁ = R ₆ = H; R ₂ = Bu; R ₃ = Bz; R ₄ = Ac; R ₅ = βOAc | | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| 855 | ^{a,b} | R ₁ = H; R ₂ = R ₄ = R ₆ = Ac; R ₃ = Bz; R ₅ = βOAc | | <i>E. pithyusa</i> ²⁶⁸ | antivirus ²⁶⁸ |
| 856 | - | R ₁ = R ₂ = R ₄ = Ac; R ₃ = Bz; R ₅ = βOAc; R ₆ = H | | <i>E. pithyusa</i> ²⁶⁸ | - |
| 857 | - | R ₁ = H; R ₂ = R ₄ = R ₆ = Ac; R ₃ = MeBu; R ₅ = βOAc | | <i>E. pithyusa</i> ²⁶⁸ | - |
| 858 | - | R ₁ = H; R ₂ = Pr; R ₃ = MeBu; R ₄ = R ₆ = Ac; R ₅ = βOAc | | <i>E. pithyusa</i> ²⁶⁸ | - |
| 859 | - | R ₁ = H; R ₂ = Pr; R ₃ = Bz; R ₄ = Ac; R ₅ = βOAc; R ₆ = Nic | | <i>E. pithyusa</i> ²⁶⁸ | - |
| 860 | - | R ₁ = R ₄ = Ac; R ₂ = Pr; R ₃ = Bz; R ₅ = βOH; R ₆ = H | | <i>E. pithyusa</i> ²⁶⁸ | antivirus ²⁶⁸ |
| 861 | prolifepene B | R ₁ = R ₆ = H; R ₂ = Bu; R ₃ = Bz; R ₄ = Nic; R ₅ = βOAc | | <i>E. prolifera</i> ¹⁸¹ | anti-fungus ¹⁸¹ |
| 862 | eupholiferinol G | R ₁ = H; R ₂ = Nic; R ₃ = Bz; R ₄ = R ₆ = Ac; R ₅ = βOAc | | <i>E. prolifera</i> ¹⁸² | antiadipogenesis ¹⁸² |
| 863 | falcatin S | R ₁ = H; R ₂ = MePr; R ₃ = Bz; R ₄ = Nic; R ₅ = βOAc; R ₆ = Ac | | <i>E. falcata</i> ¹⁸⁴ | K ⁺ channel blocker ¹⁸⁴ |
| 864 | - | R ₁ = H; R ₂ = R ₆ = Ac; R ₃ = Bz; R ₄ = Nic; R ₅ = αOAc | | <i>E. boetica</i> ²⁶⁹ | - |
| 865 | - | R ₁ = H; R ₂ = R ₆ = Ac; R ₃ = MePr; R ₄ = Nic; R ₅ = αOAc | | <i>E. boetica</i> ²⁶⁹ | - |
| 866 | euphosantianane A | R ₁ = H; R ₂ = Pr; R ₃ = Val; R ₄ = R ₆ = Ac; R ₅ = βOAc | | <i>E. sanctae-catharinae</i> ¹⁸⁵ | - |
| 867 | euphosantianane B | R ₁ = H; R ₂ = Pr; R ₃ = MePr; R ₄ = Bz; R ₅ = βOAc; R ₆ = Ac | | <i>E. sanctae-catharinae</i> ¹⁸⁵ | - |
| 868 | euphosantianane C | R ₁ = H; R ₂ = Pr; R ₃ = R ₄ = Bz; R ₅ = βOAc; R ₆ = Ac | | <i>E. sanctae-catharinae</i> ¹⁸⁵ | - |
| 869 | euphosantianane D | R ₁ = H; R ₂ = Pr; R ₃ = MeBu; R ₄ = Nic; R ₅ = βOAc; R ₆ = Ac | | <i>E. sanctae-catharinae</i> ¹⁸⁵ | - |
| 870 | euphosantianane E | R ₁ = H; R ₂ = Pr; R ₃ = MSal; R ₄ = R ₆ = Ac; R ₅ = βOAc | | <i>E. sanctae-catharinae</i> ¹⁸⁶ | - |
| 871 | euphosantianane F | R ₁ = H; R ₂ = R ₃ = Pr; R ₄ = Nic; R ₅ = βOAc; R ₆ = Ac | | <i>E. sanctae-catharinae</i> ¹⁸⁶ | - |
| 872 | euphosantianane G | R ₁ = H; R ₂ = MePr; R ₃ = R ₆ = Ac; R ₄ = Nic; R ₅ = βOAc | | <i>E. sanctae-catharinae</i> ¹⁸⁶ | - |
| 873 | - | R ₁ = H; R ₂ = Nic; R ₃ = Tig; R ₄ = R ₆ = Ac; R ₅ = βOAc | | <i>E. sogdiana</i> ²⁷² | cytotoxicity ²⁷² |
| 874 | - | R ₁ = H; R ₂ = Nic; R ₃ = Tig; R ₄ = R ₆ = Ac; R ₅ = βOMeTig | | <i>E. sogdiana</i> ²⁷² | - |
| 875 | - | R ₁ = H; R ₂ = Nic; R ₃ = Bz; R ₄ = R ₆ = Ac; R ₅ = βOPr | | <i>E. sogdiana</i> ²⁷² | cytotoxicity ²⁷² |
| 876 | macroripremyrsinone A | - | - | <i>E. macrorrhiza</i> ¹⁶⁰ | - |

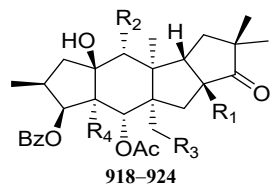


Cyclomyrsinanes



| | | | | |
|-----|-------------------------------|--|---|---|
| 877 | euphorbialoid K | $R_1 = R_3 = R_4 = \text{Ac}; R_2 = \text{H}; R_5 = \text{OBz}; R_6 = \beta\text{OAc}$ | <i>E. prolifera</i> ¹⁸³ | - |
| 878 | euphorbialoid L | $R_1 = R_4 = \text{Ac}; R_2 = \text{H}; R_3 = \text{Pr}; R_5 = \text{OBz}; R_6 = \alpha\text{OBz}$ | <i>E. prolifera</i> ¹⁸³ | - |
| 879 | euphorbialoid M | $R_1 = R_3 = R_4 = \text{Ac}; R_2 = \text{H}; R_5 = \text{OBz}; R_6 = \beta\text{ONic}$ | <i>E. prolifera</i> ¹⁸³ | - |
| 880 | falcatin P | $R_1 = R_4 = \text{Ac}; R_2 = \text{H}; R_3 = \text{MePr}; R_5 = \text{O}\beta\text{z}; R_6 = \beta\text{OAc}; 17\text{-OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 881 | falcatin Q | $R_1 = R_4 = \text{Ac}; R_2 = \text{H}; R_3 = \text{MePr}; R_5 = \text{ONic}; R_6 = \beta\text{OBz}; 17\text{-OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 882 | falcatin R | $R_1 = R_4 = \text{Ac}; R_2 = \text{H}; R_3 = \text{Pr}; R_5 = \text{ONic}; R_6 = \beta\text{OBz}; 17\text{-OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 883 | - | $R_1 = R_2 = \text{H}; R_3 = \text{Ac}; R_4 = \text{Bz}; R_5 = \text{OAc}; R_6 = \text{O}=\text{}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| 884 | - | $R_1 = R_3 = \text{Ac}; R_2 = \text{H}; R_4 = \text{Bz}; R_5 = \text{OAc}; R_6 = \text{O}=\text{}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| 885 | - | $R_1 = \text{Ac}; R_2 = \text{H}; R_3 = \text{Pr}; R_4 = \text{Bz}; R_5 = \text{OAc}; R_6 = \text{O}=\text{}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| 886 | - | $R_1 = R_2 = \text{H}; R_3 = \text{Ac}; R_4 = \text{Bz}; R_5 = \text{OAc}; R_6 = \beta\text{OBz}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| 887 | ^b | $R_1 = R_2 = \text{H}; R_3 = \text{Ac}; R_4 = \text{Bz}; R_5 = \text{OBz}; R_6 = \beta\text{OAc}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| 888 | - | $R_1 = R_2 = \text{H}; R_3 = \text{Pr}; R_4 = \text{Bz}; R_5 = \text{OAc}; R_6 = \beta\text{OBz}$ | <i>E. cupanii</i> ¹⁷⁶ | - |
| 889 | - | $R_1 = R_3 = R_4 = \text{Ac}; R_2 = R_5 = \text{H}; R_6 = \text{O}=\text{}$ | <i>E. boetica</i> ²⁶⁹ | - |
| 890 | euplarisan H ^b | $R_1 = R_4 = \text{Ac}; R_2 = R_5 = \text{H}; R_3 = \text{BaF}; R_6 = \text{O}=\text{}$ | <i>E. lathyris</i> ²⁴³ | anti-inflammation ²⁴³ |
| 891 | kopetdaghinane A | $R_1 = R_3 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_5 = \text{O}=\text{}; R_6 = \text{MePr}; R_7 = \text{OAc}; R_8 = \beta\text{ONic}; 17\text{-OAc}$ | <i>E. kopetdaghi</i> ¹⁸⁷ | cytotoxicity, apoptosis ¹⁸⁷ |
| 892 | kopetdaghinane B | $R_1 = \text{H}; R_2 = \alpha\text{H}; R_3 = \text{Pr}; R_4 = \text{Ac}; R_5 = \text{O}=\text{}; R_6 = \text{MePr}; R_7 = \text{OAc}; R_8 = \beta\text{ONic}; 17\text{-OAc}$ | <i>E. kopetdaghi</i> ¹⁸⁷ | cytotoxicity, apoptosis ¹⁸⁷ |
| 893 | - | $R_1 = \text{H}; R_2 = \alpha\text{H}; R_3 = R_4 = \text{Ac}; R_5 = \text{O}=\text{}; R_6 = \text{MePr}; R_7 = \text{OAc}; R_8 = \beta\text{OBz}$ | <i>E. kopetdaghi</i> ¹⁸⁸ | immunosuppressive ¹⁸⁸ |
| 894 | - | $R_1 = \text{H}; R_2 = \alpha\text{H}; R_3 = R_4 = \text{Ac}; R_5 = \text{O}=\text{}; R_6 = \text{MeBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. sogdiana</i> ²⁷³ | anti-anxiety ²⁷³ |
| 895 | - | $R_1 = \text{H}; R_2 = \alpha\text{H}; R_3 = R_4 = \text{Ac}; R_5 = \text{O}=\text{}; R_6 = \text{MePr}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. kopetdaghi</i> ¹⁸⁸ | - |
| 896 | prolifepene A | $R_1 = R_3 = \text{Ac}; R_2 = \alpha\text{H}; R_4 = \text{Pr}; R_5 = \text{O}=\text{}; R_6 = \text{H}; R_7 = \text{OAc}; R_8 = \beta\text{ONic}$ | <i>E. prolifera</i> ¹⁸¹ | anti-fungus ¹⁸¹ |
| 897 | eupholiferinol A ^b | $R_1 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{Nic}; R_5 = \text{O}=\text{}; R_6 = \text{Bz}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. prolifera</i> ¹⁸² | antiadipogenesis ¹⁸² |
| 898 | eupholiferinol B | $R_1 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{Nic}; R_5 = \text{O}=\text{}; R_6 = \text{MePr}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. prolifera</i> ¹⁸² | antiadipogenesis ¹⁸² |
| 899 | - | $R_1 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{Nic}; R_5 = \text{O}=\text{}; R_6 = \text{DMBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. aellenii</i> ²⁷⁴ | - |
| 900 | - | $R_1 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{Pr}; R_5 = \text{O}=\text{}; R_6 = \text{MeBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. aellenii</i> ²⁷⁴ | - |
| 901 | - | $R_1 = \text{H}; R_2 = \alpha\text{H}; R_3 = \text{Pr}; R_4 = \text{Ac}; R_5 = \text{O}=\text{}; R_6 = \text{MeBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. microsciadia</i> ²⁷⁵ | anti-angiogenic ²⁷⁵ |
| 902 | - | $R_1 = R_3 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_5 = \text{O}=\text{}; R_6 = \text{MePr}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. microsciadia</i> ²⁷⁵ | - |
| 903 | falcatin G | $R_1 = R_3 = \text{Ac}; R_2 = \alpha\text{H}; R_4 = \text{Bz}; R_5 = \text{O}=\text{}; R_6 = \text{Bz}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 904 | falcatin H | $R_1 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{MePr}; R_5 = \text{O}=\text{}; R_6 = \text{Ac}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 905 | falcatin I | $R_1 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{Nic}; R_5 = \text{O}=\text{}; R_6 = \text{MeBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 906 | falcatin J | $R_1 = R_4 = \text{Ac}; R_2 = \beta\text{OH}; R_3 = \text{Pr}; R_5 = \text{O}=\text{}; R_6 = \text{MeBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 907 | falcatin K | $R_1 = R_4 = \text{Ac}; R_2 = \beta\text{OH}; R_3 = \text{MePr}; R_5 = \text{O}=\text{}; R_6 = \text{MeBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 908 | falcatin L | $R_1 = R_4 = \text{Ac}; R_2 = \beta\text{ONic}; R_3 = \text{MePr}; R_5 = \text{O}=\text{}; R_6 = \text{MeBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 909 | falcatin M | $R_1 = R_4 = \text{Ac}; R_2 = \beta\text{ONic}; R_3 = R_6 = \text{MePr}; R_5 = \text{O}=\text{}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 910 | falcatin N | $R_1 = R_4 = \text{Ac}; R_2 = \beta\text{ONic}; R_3 = \text{Pr}; R_5 = \text{O}=\text{}; R_6 = \text{MePr}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 911 | falcatin O | $R_1 = R_4 = \text{Ac}; R_2 = \beta\text{OBz}; R_3 = \text{Pr}; R_5 = \text{O}=\text{}; R_6 = \text{MeBu}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. falcata</i> ¹⁸⁴ | K^+ channel blocker ¹⁸⁴ |
| 912 | euphordraculoin G | $R_1 = \text{H}; R_2 = \alpha\text{H}; R_3 = R_4 = \text{Ac}; R_5 = \text{O}=\text{}; R_6 = \text{Bz}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| 913 | euphordraculoin H | $R_1 = R_3 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_5 = \text{O}=\text{}; R_6 = \text{Bz}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| 914 | euphordraculoin I | $R_1 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{Bu}; R_5 = \text{O}=\text{}; R_6 = \text{Bz}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. dracunculoides</i> ¹⁵⁹ | - |
| 915 | - | $R_1 = R_4 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{Nic}; R_5 = \text{O}=\text{}; R_6 = \text{MePr}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. sogdiana</i> ²⁷² | cytotoxicity ²⁷² |
| 916 | - | $R_1 = R_4 = R_6 = \text{Ac}; R_2 = \alpha\text{H}; R_3 = \text{MePr}; R_5 = \text{O}=\text{}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. sogdiana</i> ²⁷² | cytotoxicity ²⁷² |
| 917 | - | $R_1 = \text{H}; R_2 = \alpha\text{H}; R_3 = \text{MePr}; R_4 = R_6 = \text{Ac}; R_5 = \text{O}=\text{}; R_7 = \text{OAc}; R_8 = \beta\text{OAc}$ | <i>E. sogdiana</i> ²⁷² | cytotoxicity ²⁷² |

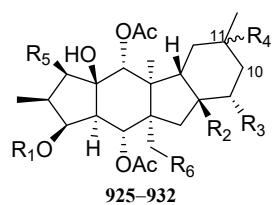
Paralianes



| | | |
|-----|--------------------------------|--|
| 918 | paralianone A | $R_1 = OH; R_2 = OAc; R_3 = R_4 = H$ |
| 919 | paralianone B | $R_1 = R_2 = R_3 = OAc; R_4 = H$ |
| 920 | paralianone C | $R_1 = R_3 = R_4 = H; R_2 = OAc$ |
| 921 | paralianone D | $R_1 = R_3 = R_4 = H; R_2 = O=$ |
| 922 | 8 β -acetylparalianone D | $R_1 = OAc; R_2 = O=; R_3 = R_4 = H$ |
| 923 | eupholene G | $R_1 = R_4 = H; R_2 = O=; R_3 = OAc$ |
| 924 | euphorbesulin O | $R_1 = H; R_2 = O=; R_3 = OAc; R_4 = OH$ |

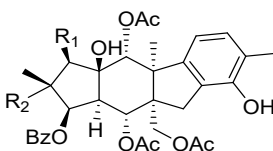
| | |
|--------------------------------------|----------------------------------|
| <i>E. peplus</i> ¹⁸⁹ | - |
| <i>E. peplus</i> ¹⁸⁹ | - |
| <i>E. peplus</i> ¹⁸⁹ | anti-inflammation ¹⁸⁹ |
| <i>E. peplus</i> ¹⁸⁹ | anti-inflammation ¹⁸⁹ |
| <i>E. peplus</i> ¹⁰⁸ | - |
| <i>E. sieboldiana</i> ¹⁹¹ | - |
| <i>E. esula</i> ¹¹¹ | - |

Pepluanes



| | | |
|-----|-------------|---|
| 925 | pepluanol A | $R_1 = Bz; R_2 = OAc; R_3 = OH; R_4 = \beta OH; R_5 = R_6 = H$ |
| 926 | pepluanol B | $R_1 = Bz; R_2 = OH; R_3 = OAc; R_4 = \beta OH; R_5 = R_6 = H$ |
| 927 | pepluanol C | $R_1 = R_5 = R_6 = H; R_2 = R_3 = OAc; R_4 = \beta OH$ |
| 928 | pepluanol D | $R_1 = Bz; R_2 = R_3 = R_5 = OAc; R_4 = \beta OH; R_6 = H$ |
| 929 | pepluanol E | $R_1 = Bz; R_2 = OAc; R_3 = O=; R_4 = \beta OH; R_5 = R_6 = H$ |
| 930 | pepluanol F | $R_1 = Bz; R_2 = OAc; R_3 = O=; R_4 = \alpha OH; R_5 = R_6 = H$ |
| 931 | pepluanol G | $R_1 = Bz; R_2 = OAc; R_3 = O=; R_5 = R_6 = H; \Delta^{10}$ |
| 932 | pepluanol H | $R_1 = Bz; R_2 = R_6 = OAc; R_3 = O=; R_5 = H; \Delta^{10}$ |

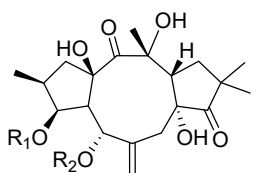
| | |
|-------------------------------------|--|
| <i>E. peplus</i> ¹⁸⁹ | Ion channel blocker ^{208,209} |
| <i>E. peplus</i> ¹⁸⁹ | Ion channel blocker ^{208,209} |
| <i>E. peplus</i> ¹⁸⁹ | Ion channel blocker ^{208,209} |
| <i>E. peplus</i> ¹⁸⁹ | Ion channel blocker ^{208,209} |
| <i>E. peplus</i> ^{189,229} | - |
| <i>E. peplus</i> ¹⁸⁹ | - |
| <i>E. peplus</i> ¹⁸⁹ | anti-inflammation ¹⁸⁹ |
| <i>E. peplus</i> ¹⁸⁹ | - |



| | | |
|-----|-----------------------------|----------------------|
| 933 | euphodefexin O ^b | $R_1 = OAc; R_2 = H$ |
| 934 | euphodefexin P | $R_1 = H; R_2 = OAc$ |

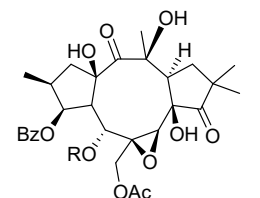
| | |
|----------------------------------|-----------------------------|
| <i>E. deflexa</i> ¹⁹⁰ | cytotoxicity ¹⁹⁰ |
| <i>E. deflexa</i> ¹⁹⁰ | - |

Presegetanes



| | | |
|-----|------------------------------|------------------------|
| 935 | euphorbesulin A ^b | $R_1 = Bz; R_2 = DMbu$ |
| 936 | euphorbesulin B | $R_1 = R_2 = Bz$ |
| 937 | euphorbesulin C | $R_1 = Bz; R_2 = Ac$ |
| 938 | eupholene A | $R_1 = R_2 = Ac$ |
| 939 | eupholene B | $R_1 = R_2 = H$ |

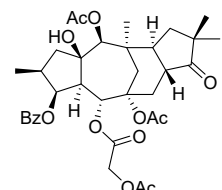
| | |
|--------------------------------------|------------------------------|
| <i>E. esula</i> ¹¹¹ | antimalarial ¹¹¹ |
| <i>E. esula</i> ¹¹¹ | - |
| <i>E. esula</i> ¹¹¹ | - |
| <i>E. sieboldiana</i> ¹⁹¹ | anti-fibrosis ¹⁹¹ |
| <i>E. sieboldiana</i> ¹⁹¹ | anti-fibrosis ¹⁹¹ |



| | | |
|-----|----------------|------------|
| 940 | euphodefexin M | $R = Ang$ |
| 941 | euphodefexin N | $R = MePr$ |

| | |
|----------------------------------|---|
| <i>E. deflexa</i> ¹⁹⁰ | - |
| <i>E. deflexa</i> ¹⁹⁰ | - |

Segetanes



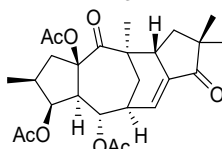
942

-

-

*E. taurinensis*¹⁹²

MDR reverser¹⁹²



943

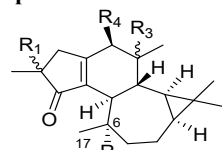
-

-

*E. peplus*¹⁹³

anti-inflammation¹⁹³

Jatropholanes



944–950

944

sikkimenoid A

$R_1 = \alpha H; R_3 = \alpha H; R_4 = O=; \Delta^{6(17)}$

*E. sikkimensis*¹⁹⁴; *E. macrorrhiza*¹⁶⁰

-

945

sikkimenoid B

$R_1 = \beta H; R_3 = \alpha H; R_4 = O=; \Delta^{6(17)}$

*E. sikkimensis*¹⁹⁴; *E. macrorrhiza*¹⁶⁰

antiangiogenesis¹⁹⁴

946

sikkimenoid C

$R_1 = \beta OH; R_3 = \alpha H; R_4 = O=; \Delta^{6(17)}$

*E. sikkimensis*¹⁹⁴; *E. macrorrhiza*¹⁶⁰

-

947

sikkimenoid D

$R_1 = \alpha OH; R_3 = \alpha H; R_4 = O=; \Delta^{6(17)}$

*E. sikkimensis*¹⁹⁴; *E. macrorrhiza*¹⁶⁰

-

948

macrorilone A

$R_1 = \alpha OH; R_2 = OH; R_3 = \alpha H; R_4 = O=$

*E. macrorrhiza*¹⁶⁰

-

949

macrorilone B

$R_1 = \beta OH; R_3 = \beta OH; R_4 = O=; \Delta^{6(17)}$

*E. macrorrhiza*¹⁶⁰

-

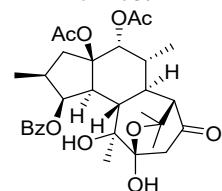
950

soongajatrochol

$R_1 = \alpha H; R_3 = \beta OH; R_4 = OH; \Delta^{6(17)}$

*E. soongarica*¹⁹⁷

-



951

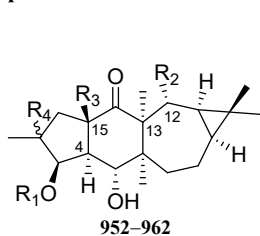
secoheliopholane A^b

-

*E. helioscopia*¹⁴⁹

-

Euphoractines



952–962

952

euphoractin F

$R_1 = Bz; R_2 = R_3 = OH; R_4 = \alpha H$

*E. micractina*¹⁹⁶

-

953

euphoractin G

$R_1 = Cin; R_2 = R_3 = OH; R_4 = \alpha H$

*E. micractina*¹⁹⁶

-

954

euphoractin H

$R_1 = H; R_2 = OMe; R_3 = OBz; R_4 = \alpha H$

*E. micractina*¹⁹⁶

-

955

euphoractin I

$R_1 = Bz; R_2 = OEt; R_3 = OH; R_4 = \alpha H$

*E. micractina*¹⁹⁶

-

956

euphoractin J

$R_1 = Cin; R_2 = OMe; R_3 = OH; R_4 = \alpha H$

*E. micractina*¹⁹⁶

-

957

euphoractin K

$R_1 = Cin; R_2 = OEt; R_3 = OH; R_4 = \alpha H$

*E. micractina*¹⁹⁶

-

958

euphoractin L

$R_1 = Cin; R_2 + R_3 = OC(Me)_2O; R_4 = \alpha H$

*E. micractina*¹⁹⁶

anti-HIV¹⁹⁶

959

macrorieuphorone A

$R_1 = H; R_2 = OBz; R_3 = OH; R_4 = \beta H$

*E. macrorrhiza*¹⁶⁰; *E. soongarica*¹⁹⁷

MDR reverser¹⁶⁰

960

macrorieuphorone B

$R_1 = H; R_2 = OBz; R_3 = OH; R_4 = \alpha H$

*E. macrorrhiza*¹⁶⁰; *E. soongarica*¹⁹⁷

MDR reverser¹⁶⁰

961

sooneuphoramine

$R_1 = Cin; R_2 = NHAc; R_3 = OH; R_4 = \alpha H$

*E. soongarica*¹⁹⁷

MDR reverser¹⁶⁰

962

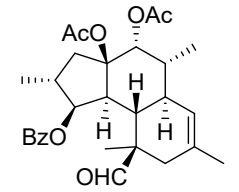
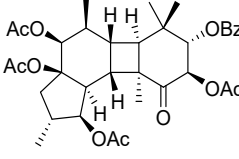
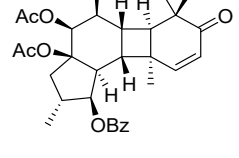
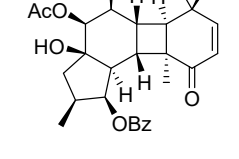
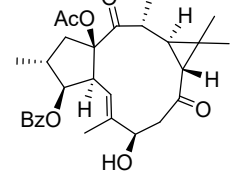
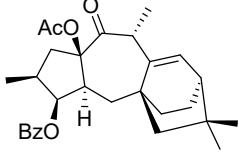
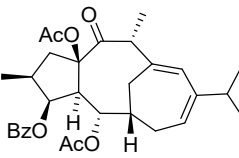
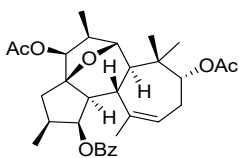
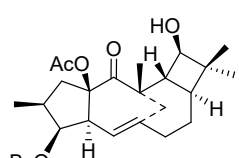
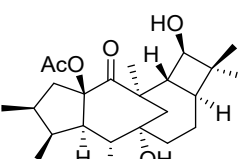
sooneuphorone

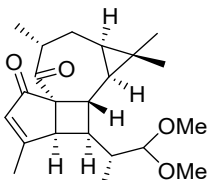
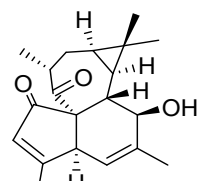
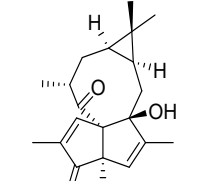
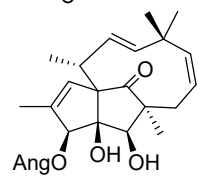
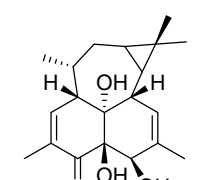
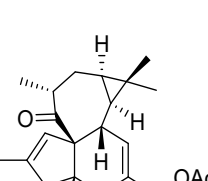
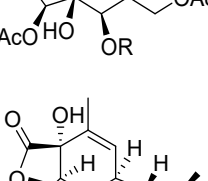
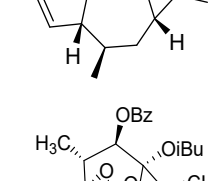
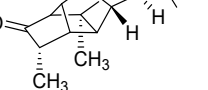
$R_1 = H; R_2 = OBz; R_4 = \alpha H; \Delta^{4(15)}$

*E. soongarica*¹⁹⁷

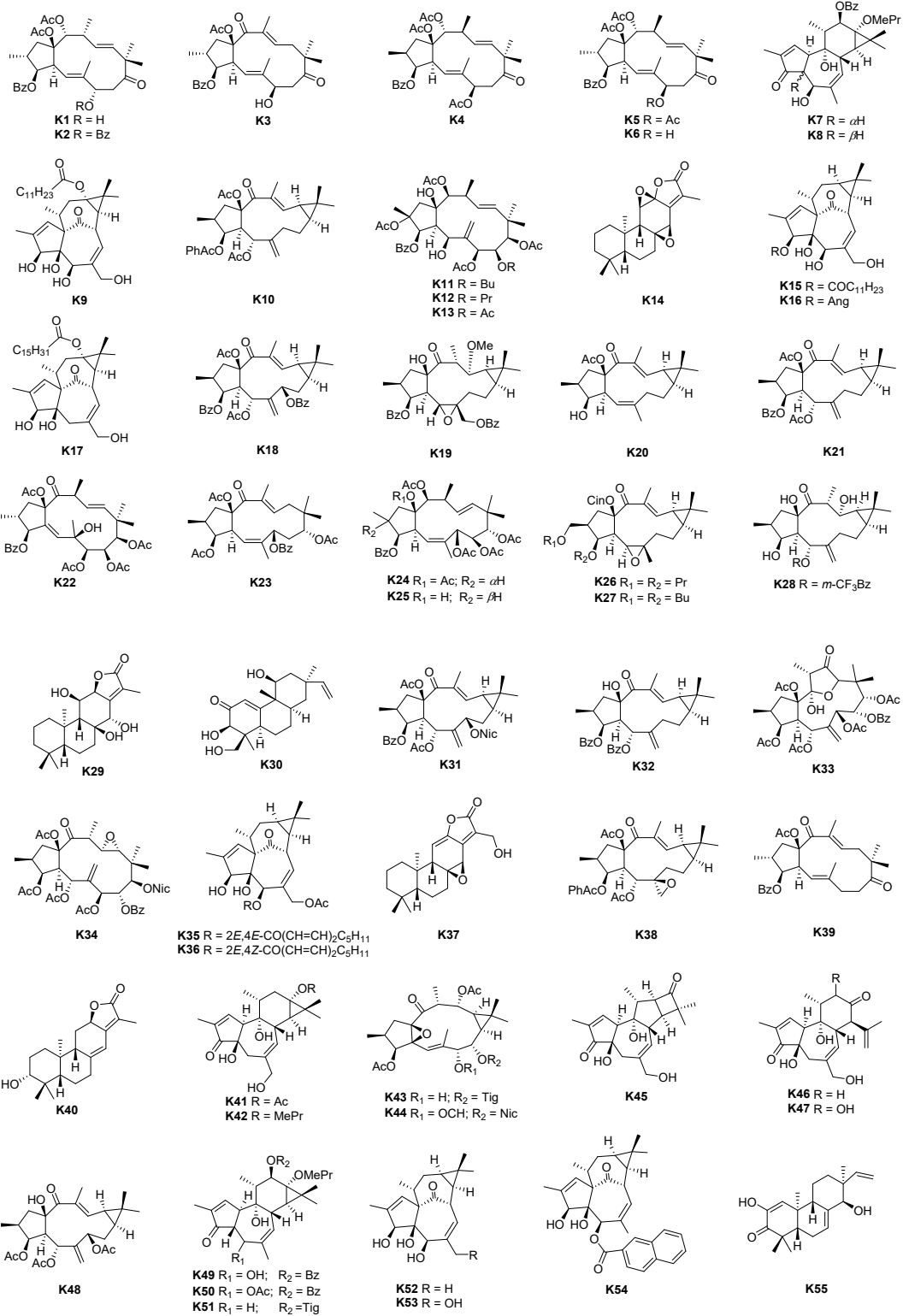
MDR reverser¹⁶⁰

| | | | | | |
|---------------|-----|-------------------------------|---|--------------------------------------|------------------------------------|
| | 963 | secoeuphoractin | - | <i>E. micractina</i> ¹⁹⁵ | anti-HIV ¹⁹⁵ |
| | 964 | euphactin E | R = Bz | <i>E. micractina</i> ¹⁹⁶ | - |
| | 965 | euphactin F | R = Cin | <i>E. micractina</i> ¹⁹⁶ | - |
| | 966 | euphoractin M | R ₁ = Bz; R ₂ = R ₃ = H | <i>E. micractina</i> ¹⁹⁶ | - |
| | 967 | euphoractin N | R ₁ = Cin; R ₂ = R ₃ = H | <i>E. micractina</i> ¹⁹⁶ | - |
| | 968 | euphoractin O | R ₁ = H; R ₂ = Me; R ₃ = Cin | <i>E. micractina</i> ¹⁹⁶ | - |
| | 969 | euphorbactin | - | <i>E. micractina</i> ¹⁹⁸ | anti-HIV ¹⁹⁸ |
| Others | | | | | |
| | 970 | heliojatrone A ^b | R ₁ = Ac; R ₂ = O=; R ₃ = αH; R ₄ = βH | <i>E. helioscopia</i> ¹⁹⁹ | - |
| | 971 | heliojatrone B | R ₁ = H; R ₂ = OAc; R ₃ = βH; R ₄ = αH | <i>E. helioscopia</i> ¹⁹⁹ | MDR reverser ¹⁹⁹ |
| | 972 | heliojatrone C ^b | R ₁ = Ac; R ₂ = OAc; R ₃ = βH; R ₄ = αH | <i>E. helioscopia</i> ¹³⁴ | anti-inflammation ¹³⁴ |
| | 973 | euphorhelipane A ^b | R = βMe | <i>E. helioscopia</i> ²⁰⁰ | lipidemic regulator ²⁰⁰ |
| | 974 | euphorhelipane B | R = αMe | <i>E. helioscopia</i> ²⁰⁰ | lipidemic regulator ²⁰⁰ |
| | 975 | euphopia A ^b | R = αH | <i>E. helioscopia</i> ²⁰¹ | anti-inflammatory ²⁰¹ |
| | 976 | euphopia B ^b | R = βH | <i>E. helioscopia</i> ²⁰¹ | anti-inflammatory ²⁰¹ |
| | 977 | euphopia C ^b | - | <i>E. helioscopia</i> ²⁰¹ | anti-inflammatory ²⁰¹ |
| | 978 | euphopia D ^b | - | <i>E. helioscopia</i> ²⁰² | anti-pyoptosis ²⁰² |

| | | | | | |
|---|-----|--------------------------------|---------|---------------------------------------|---|
|  | 979 | euphopia E ^b | - | <i>E. helioscopia</i> ²⁰² | anti-pyoptosis ²⁰² |
|  | 980 | gaditanone | - | <i>E. gaditana</i> ^{203,204} | - |
|  | 981 | heliosterpenoid A ^b | - | <i>E. helioscopia</i> ²⁰⁵ | cytotoxicity ²⁰⁵ |
|  | 982 | heliosterpenoid B | - | <i>E. helioscopia</i> ²⁰⁵ | MDR reverser ²⁰⁵ |
|  | 983 | euphohelioscoid A | - | <i>E. helioscopia</i> ¹³¹ | K ⁺ channel blocker ¹³¹ |
|  | 984 | euphohyrisnoid A ^b | - | <i>E. lathyris</i> ²⁰⁶ | lipidemic regulator ²⁰⁶ |
|  | 985 | euphohyrisnoid B ^b | - | <i>E. lathyris</i> ²⁰⁶ | lipidemic regulator ²⁰⁶ |
|  | 986 | euphopia F ^b | - | <i>E. helioscopia</i> ²⁰² | anti-pyoptosis ²⁰² |
|  | 987 | eupholathone | - | <i>E. lathyris</i> ²⁰⁷ | - |
|  | 988 | euphornin E ^b | R = BaF | <i>E. lathyris</i> ¹⁵⁷ | - |

| | | | | | |
|---|-----|-------------------------------|--|------------------------------------|------------------------------------|
|  | 989 | peplucetal ^b | - | <i>E. peplus</i> ²⁰⁸ | ion channel blocker ²⁰⁸ |
|  | 990 | pepluanol A ^b | - | <i>E. peplus</i> ²⁰⁸ | ion channel blocker ²⁰⁸ |
|  | 991 | pepluanol B ^b | - | <i>E. peplus</i> ²⁰⁸ | ion channel blocker ²⁰⁸ |
|  | 992 | pepluanol C ^b | - | <i>E. peplus</i> ²⁰⁹ | ion channel blocker ²⁰⁹ |
|  | 993 | pepluanol D ^b | - | <i>E. peplus</i> ²⁰⁹ | ion channel blocker ²⁰⁹ |
|  | 994 | euphorstranoid A ^b | R = 2 <i>E</i> ,4 <i>E</i> ,6 <i>E</i> -CO(CH=CH) ₃ (CH ₂) ₂ CH ₃ | <i>E. stracheyi</i> ²¹⁰ | lipid-lowering ²¹⁰ |
|  | 995 | euphorstranoid B | R = 2 <i>E</i> ,4 <i>E</i> -CO(CH=CH) ₂ (CH ₂) ₄ CH ₃ | <i>E. stracheyi</i> ²¹⁰ | lipid-lowering ²¹⁰ |
|  | 996 | euphorikanin A ^b | - | <i>E. kansui</i> ²¹¹ | cytotoxicity ²¹¹ |
|  | 997 | pedrolide ^b | - | <i>E. pedroi</i> ²¹² | MDR reverser ²¹² |

^areference ^bstructures confirmed by single crystal X-ray diffractions.



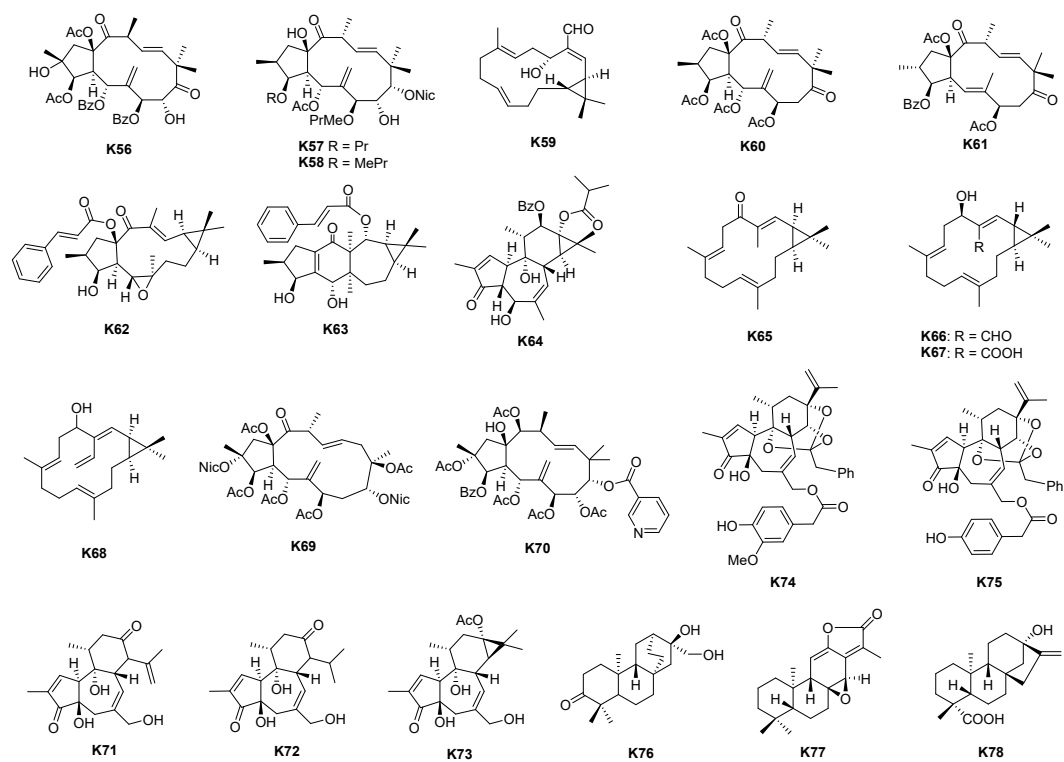


Fig. S1 Structures of known compounds used in the review

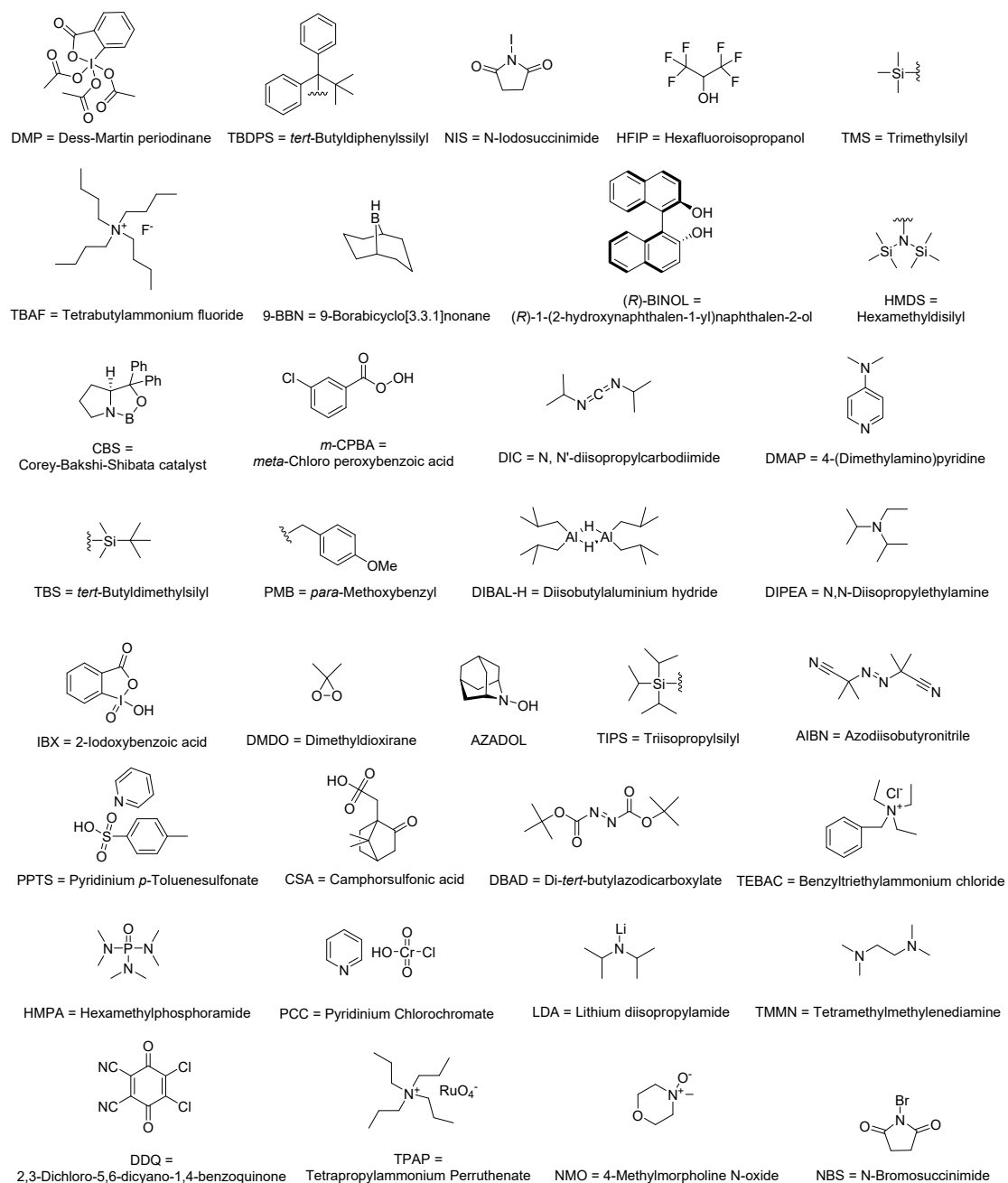


Fig. S2 Structural abbreviations used in synthesis part