Electronic Supplementary Information

Synthesis of thiazolidine-thiones, iminothiazolidines and oxazolidines via base promoted cyclization of epoxy-sulfonamides and heterocumulenes

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**Figure S1.** ORTEP of compound 27 (probability ellipsoid at 30%). Selected bond lengths [Å] with esds in parentheses: S1-N1 1.693(3), S2-C10 1.618(3), S3-C10 1.745(3), S3-C9 1.786(4), C10-N1 1.365(4), C9-C8 1.492(6).

**Figure S2.** ORTEP of compound 49 (probability ellipsoid at 30%). Selected bond lengths [Å] with esds in parentheses: C7-C8 1.491(4), N1-C7 1.398(4), S1-N1 1.630(3), N1-H23 0.80(4), C7-C6 1.349(4), C9-C6 1.498(4), P1-C6 1.775(3).

**X-ray data:**

Crystallographic data were collected on a Bruker APX-II-SMART using Mo-K$_\alpha$ radiation ($\lambda = 0.71073$ Å) and have been deposited at the Cambridge Crystallographic Data Center (CCDC). Copies of the information may be obtained free of charge from The Director, CCDC, 12 Union Road, Cambridge CB2 1 EZ, UK (Fax: +44-1223-336033; email: deposit@ccdc.cam.ac.uk or www.ccdc.cam.ac.uk).
Compound 3
Colorless block, C_{11}H_{13}NO_{3}S_{3}, M = 303.40, triclinic, space group P-1, a = 6.0374(7) Å, b = 9.0824(10) Å, c = 13.2438(15) Å, V = 674.86(13) Å³, α = 71.460(2), β = 88.791(2), γ = 78.837(2), Z = 2, μ = 0.548 mm⁻¹, data/restraints/parameters: 2749/0/165, R indices (I > 2σ(I)) R1 =0.098, wR2 (all data) = 0.2983. The five-membered ring is partially disordered at S3 with partial occupancy of 0.8 and 0.2 respectively at the two sites. CCDC no. 1575670.

Compound 13
Colorless block, C_{17}H_{17}ClN_{2}O_{3}S_{2}, M = 396.89, monoclinic, space group P2₁/c, a = 10.9934(13) Å, b = 15.541(2) Å, c = 10.7812(15) Å, V = 1816.2(4) Å³, β = 99.582(4), Z = 4, μ = 0.459 mm⁻¹, data/restraints/parameters: 3201/0/217, R indices (I > 2σ(I)) R1 =0.089, wR2 (all data) = 0.2086. CCDC no. 1575671.

Compound 27
Colorless block, C_{10}H_{11}NO_{3}S_{3}, M = 273.38, monoclinic, space group P2₁/c, a = 6.1417(8) Å, b = 9.6650(13) Å, c = 20.803(3) Å, V = 1224.3(3) Å³, β = 97.498(2), Z = 4, μ = 0.589 mm⁻¹, data/restraints/parameters: 2893/0/146, R indices (I > 2σ(I)) R1 =0.073, wR2 (all data) = 0.1700. CCDC no. 1575672.

Compound 40
C_{18}H_{19}ClN_{2}O_{3}S_{2}, M = 394.92, monoclinic, space group P2₁/c, a = 17.218(7) Å, b = 7.657(3) Å, c = 14.611(6) Å, V = 1875.2(13) Å³, β = 103.225(12), Z = 4, μ = 0.440 mm⁻¹, data/restraints/parameters: 3274/0/229, R indices (I > 2σ(I)) R1 =0.054, wR2 (all data) = 0.1277. CCDC no. 1575673.

Compound 49
Colorless block, C_{22}H_{28}NO_{3}PS, M = 449.48, monoclinic, space group P2₁/c, a = 15.4813(7) Å, b = 13.2156(6) Å, c = 11.7370(4) Å, V = 2377.94(17) Å³, β = 98.003(10), Z = 4, μ = 0.235 mm⁻¹, data/restraints/parameters: 4165/0/280, R indices (I > 2σ(I)) R1 = 0.0625, wR2 (all data) = 0.1792. CCDC no. 1587468.
Figure S3. $^1$H NMR spectrum of compound 3

Figure S4. $^{13}$C NMR spectrum of compound 3
Figure S5. $^1$H NMR spectrum of compound 4

Figure S6. $^{13}$C NMR spectrum of compound 4
Figure S7. $^1$H NMR spectrum of compound 5

Figure S8. $^{13}$C NMR spectrum of compound 5
Figure S9. $^1$H NMR spectrum of compound 6

Figure S10. $^{13}$C NMR spectrum of compound 6
Figure S11. $^1$H NMR spectrum of compound 7

Figure S12. $^{13}$C NMR spectrum of compound 7
Figure S13. $^1$H NMR spectrum of compound 8

Figure S14. $^{13}$C NMR spectrum of compound 8
Figure S15. $^1$H NMR spectrum of compound 9

Figure S16. $^{13}$C NMR spectrum of compound 9
Figure S17. $^1$H NMR spectrum of compound 10

Figure S18. $^{13}$C NMR spectrum of compound 10
Figure S19. $^1$H NMR spectrum of compound 11

Figure S20. $^{13}$C NMR spectrum of compound 11
Figure S21. $^1$H NMR spectrum of compound 12

Figure S22. $^{13}$C NMR spectrum of compound 12
Figure S23. $^1$H NMR spectrum of compound 13

Figure S24. $^{13}$C NMR spectrum of compound 13
Figure S25. $^1$H NMR spectrum of compound 14

Figure S26. $^{13}$C NMR spectrum of compound 14
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Figure S28. $^{13}$C NMR spectrum of compound 15
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Figure S33. $^1$H NMR spectrum of compound 18

Figure S34. $^{13}$C NMR spectrum of compound 18
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Figure S36. $^{13}$C NMR spectrum of compound 19
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**Figure S38.** $^{13}$C NMR spectrum of compound 20
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Figure S40. $^{13}$C NMR spectrum of compound 21
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Figure S42. $^{13}$C NMR spectrum of compound 22
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**Figure S44.** $^{13}$C NMR spectrum of compound 23
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Figure S46. $^{13}$C NMR spectrum of compound 24
Figure S47. $^1$H NMR spectrum of compound 26

Figure S48. $^{13}$C NMR spectrum of compound 26
Figure S49. $^1$H NMR spectrum of compound 27

Figure S50. $^{13}$C NMR spectrum of compound 27
Figure S51. $^1$H NMR spectrum of compound 28

Figure S52. $^{13}$C NMR spectrum of compound 28
Figure S53. $^1$H NMR spectrum of compound 29

Figure S54. $^{13}$C NMR spectrum of compound 29
Figure S55. $^1$H NMR spectrum of compound 30

Figure S56. $^{13}$C NMR spectrum of compound 30
Figure S57. $^1$H NMR spectrum of compound 31

Figure S58. $^{13}$C NMR spectrum of compound 31
Figure S59. $^1$H NMR spectrum of compound 32

Figure S60. $^{13}$C NMR spectrum of compound 32
Figure S61. $^1$H NMR spectrum of compound 33

Figure S62. $^{13}$C NMR spectrum of compound 33
Figure S63. \(^1\)H NMR spectrum of compound 34

Figure S64. \(^{13}\)C NMR spectrum of compound 34
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Figure S66. $^{13}$C NMR spectrum of compound 35
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Figure S68. $^{13}$C NMR spectrum of compound 37
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Figure S86. $^{13}$C NMR spectrum of compound 47
Figure S87. $^1$H NMR spectrum of compound 49

Figure S88. $^{13}$C NMR spectrum of compound 49