

Supporting Information

Spiromyrrhenes A–D: Unprecedented Diterpene-Sesquiterpene Heterodimers as intermolecular [4+2] cycloaddition products from *Resina Commiphora* That Inhibit Tumor Stemness in Esophageal Cancer

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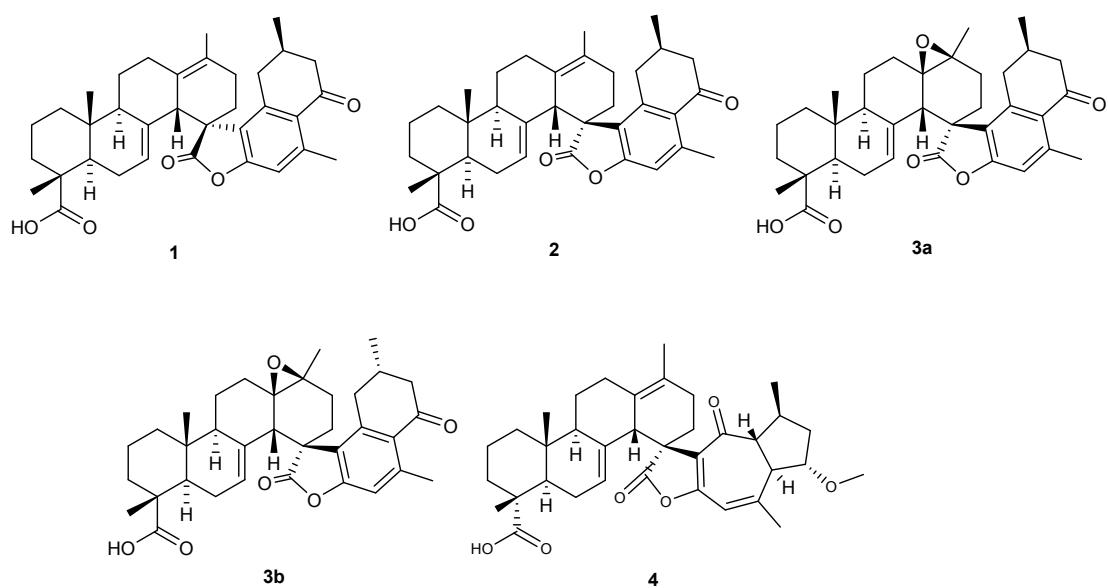


Figure S1. Five model compounds designed for the quantum chemical NMR calculation of compounds **1**, **2**, **3a**, **3b** and **4**.

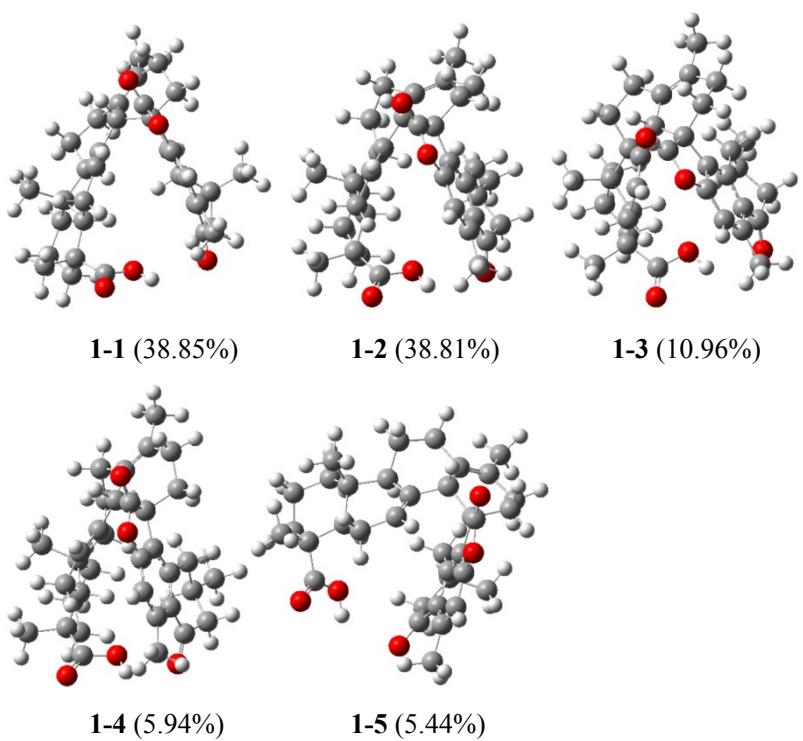
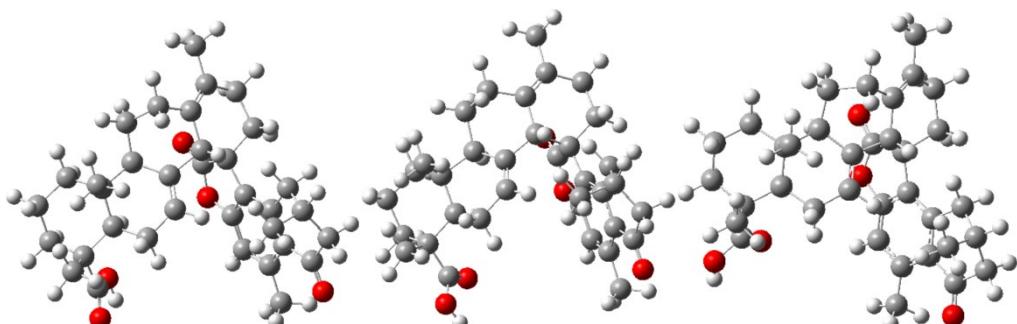
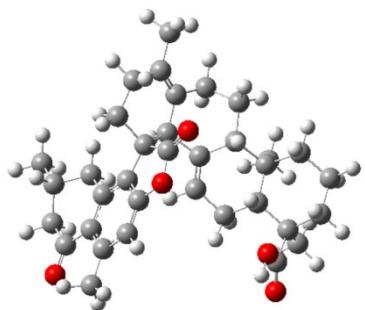


Figure S2. The lowest energy conformers of **1** (the relative populations are in parentheses).



2-1 (51.79%)

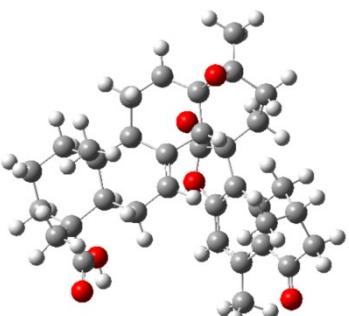
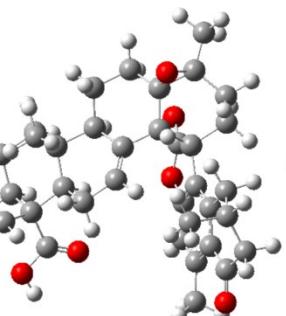
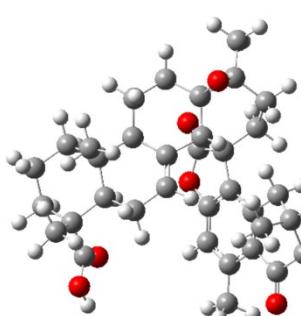


2-2 (21.76%)

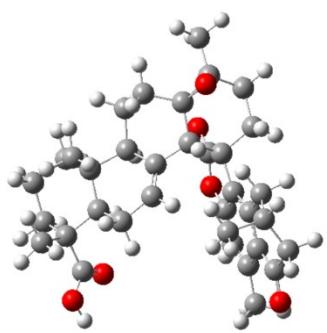
2-3 (19.73%)

2-4 (6.72%)

Figure S3. The lowest energy conformers of **2** (the relative populations are in parentheses).



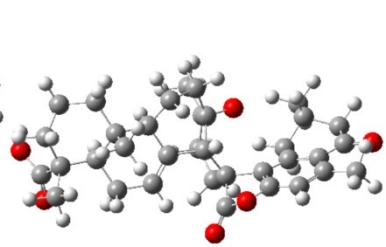
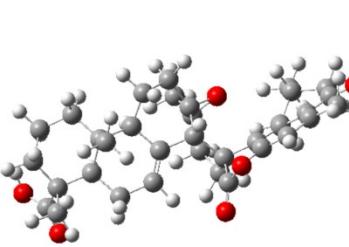
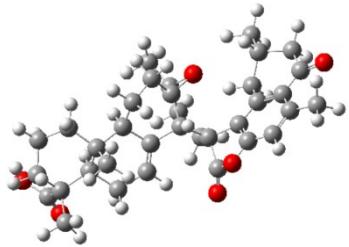
3a-1 (47.09%)



3a-2 (23.57%)

3a-3 (22.98%)

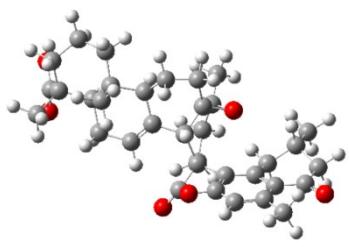
3a-4 (6.36%)



3b-1 (74.96%)

3b-2 (11.75%)

3b-3 (7.16%)



3b-4 (6.13%)

Figure S4. The lowest energy conformers of **3a** and **3b** (the relative populations are in parentheses).

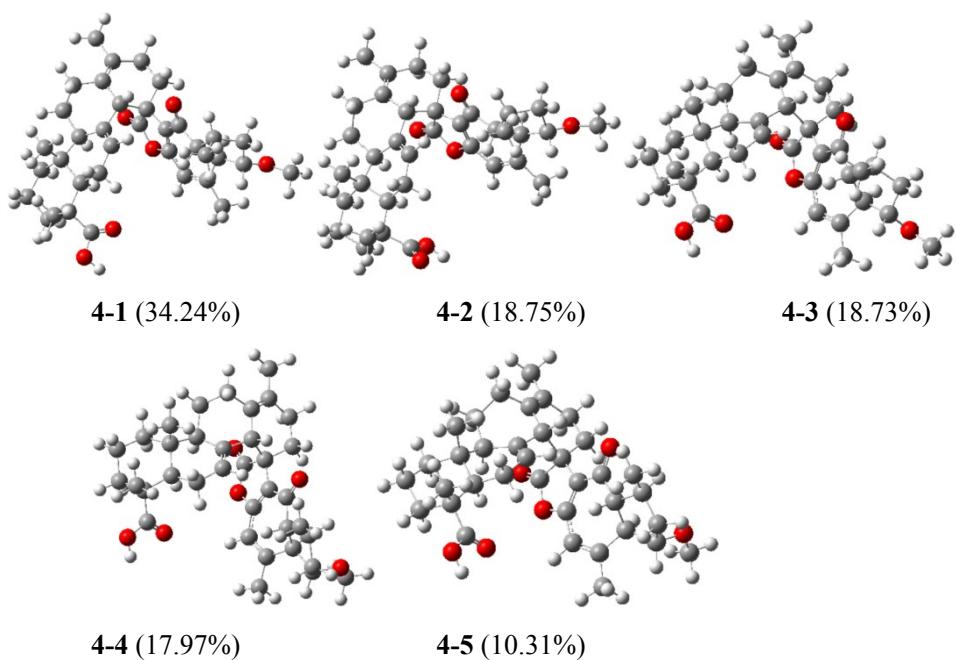


Figure S5. The lowest energy conformers of **4** (the relative populations are in parentheses).

Table S1. Extracted heats and weighting factors of the optimized conformers and the cartesian coordinates for **1**, **2**, **3a**, **3b** and **4**

| | | B3LYP/6-311+G(d) | | | | | |
|------------|---------------|------------------|-----------------|---------------------------------------|---------------|---------------|---------------|
| | | Conformer | Extracted heats | Boltzmann-calculated contribution (%) | | | |
| 1 | 1 | 1 | -1735.11831655 | 38.85% | | | |
| | 2 | 2 | -1735.11830459 | 38.81% | | | |
| | 3 | 3 | -1735.11707354 | 10.96% | | | |
| | 4 | 4 | -1735.116531716 | 5.94% | | | |
| | 5 | 5 | -1735.116483908 | 5.44% | | | |
| 2 | 1 | 1 | -1735.12395432 | 51.79% | | | |
| | 2 | 2 | -1735.12312442 | 21.76% | | | |
| | 3 | 3 | -1735.12302682 | 19.73% | | | |
| | 4 | 4 | -1735.12200134 | 6.72% | | | |
| 3a | 1 | 1 | -1809.41442350 | 47.09% | | | |
| | 2 | 2 | -1809.41375388 | 23.57% | | | |
| | 3 | 3 | -1809.41370514 | 22.98% | | | |
| | 4 | 4 | -1809.41250073 | 6.36% | | | |
| 3b | 1 | 1 | -1809.41489078 | 74.96% | | | |
| | 2 | 2 | -1809.41314070 | 11.75% | | | |
| | 3 | 3 | -1809.41267444 | 7.16% | | | |
| | 4 | 4 | -1809.41252898 | 6.13% | | | |
| 4 | 1 | 1 | -1849.89166872 | 34.24% | | | |
| | 2 | 2 | -1849.89110932 | 18.75% | | | |
| | 3 | 3 | -1849.89110810 | 18.73% | | | |
| | 4 | 4 | -1849.89103819 | 17.97% | | | |
| | 5 | 5 | -1849.89054895 | 10.31% | | | |
| 1-1 | X axis(Å) | Y axis(Å) | Z axis(Å) | 1-2 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | -0.7552813427 | 2.5532594242 | 2.9549851992 | C | -0.8630833324 | 2.0848169514 | 3.1826439222 |
| C | 0.6287688255 | 1.9109359709 | 3.1227282111 | C | -0.2919614847 | 0.6870658457 | 2.9112026928 |
| C | 0.8491845793 | 0.9612523324 | 1.9309328747 | C | 0.9723532802 | 0.8401259641 | 2.0593498986 |
| C | 0.7785285766 | 1.6834151812 | 0.601891705 | C | 0.8082473949 | 1.6945024425 | 0.8168298663 |
| C | -0.1399077073 | 2.7624238011 | 0.4384877325 | C | -0.1778356473 | 2.7290534415 | 0.7835819826 |
| C | -1.0850186471 | 3.0469225064 | 1.5500824995 | C | -1.1798957432 | 2.7999812483 | 1.8852857541 |
| C | 1.5606871937 | 1.2982571575 | -0.4880641229 | C | 1.6296630912 | 1.505753749 | -0.3045301627 |
| C | 1.4656616063 | 2.0459153693 | -1.6606153587 | C | 1.4846210429 | 2.4050033383 | -1.3626585373 |
| C | 0.6398900923 | 3.1417373382 | -1.8293649588 | C | 0.602482341 | 3.4679120775 | -1.389730989 |
| C | -0.2042219894 | 3.5056105001 | -0.7745580052 | C | -0.2707292837 | 3.6337413024 | -0.3130885165 |
| C | 1.7545949206 | 2.9449286389 | 3.2854976562 | C | -0.0126384965 | -0.0810396402 | 4.207260495 |
| O | -2.1552741815 | 3.6284674558 | 1.3673993811 | O | -2.259392845 | 3.3762812776 | 1.7501098651 |
| C | -1.1268323462 | 4.6831129728 | -0.9912067305 | C | -1.249107243 | 4.7842312785 | -0.3851785522 |
| C | -4.0270985422 | 0.4130599061 | -0.5855458293 | C | -3.885336499 | 0.4072579657 | -0.6777302314 |
| O | -4.6126805705 | 1.0204762185 | -1.4590203726 | O | -4.4523247556 | 1.0969106129 | -1.5010925373 |
| C | -3.9149336671 | -3.0883104524 | 1.0799216861 | C | -3.6215318075 | -3.2508601697 | 0.5904790844 |

| | | | | | | | |
|---|---------------|---------------|---------------|---|---------------|---------------|---------------|
| C | -4.3901834531 | -1.6670079122 | 0.7631430632 | C | -4.1648351126 | -1.8284288592 | 0.4242219965 |
| C | -3.7802538259 | -1.1091301078 | -0.5568971291 | C | -3.5778734671 | -1.0969960825 | -0.8198664752 |
| C | -2.2161769801 | -1.3038349719 | -0.5496999904 | C | -2.0031430715 | -1.2205732028 | -0.8297052858 |
| C | -1.6352216865 | -2.6666347453 | -0.0475501993 | C | -1.3659759744 | -2.6008919595 | -0.4632646485 |
| C | -2.3895169259 | -3.1214561362 | 1.2282961549 | C | -2.0980933507 | -3.2214303158 | 0.7525794968 |
| C | -1.54453834 | -0.9199935024 | -1.8756454015 | C | -1.3500988957 | -0.6876422621 | -2.1150866035 |
| C | -0.0465847423 | -0.9771963834 | -1.7494441138 | C | 0.1506285869 | -0.691741354 | -1.9888815251 |
| C | 0.6000052908 | -1.5204841114 | -0.7071133792 | C | 0.8251371024 | -1.3303495432 | -1.0207756512 |
| C | -0.1454597883 | -2.3502059248 | 0.3325347248 | C | 0.11500679 | -2.2725310307 | -0.0459467319 |
| C | -1.695387452 | -3.7917110193 | -1.1062525896 | C | -1.4012330944 | -3.5962226728 | -1.6499105398 |
| C | -4.50254649 | -1.7203927541 | -1.772163089 | C | -4.2813604226 | -1.5924522926 | -2.0980093579 |
| C | 2.123634634 | -1.34090315 | -0.5569659777 | C | 2.3297980034 | -1.0497927878 | -0.7958496684 |
| C | 2.7798498598 | -2.0585085379 | 0.6352414974 | C | 2.8930592229 | -1.9102700677 | 0.3306886542 |
| C | 1.991943592 | -3.1282615831 | 1.3803725127 | C | 2.4714617922 | -3.3454231601 | 0.1295033084 |
| C | 0.7180677633 | -3.5783407392 | 0.6639907806 | C | 0.9478406231 | -3.5429410954 | 0.2880693528 |
| C | 4.0750789685 | -1.8102249827 | 0.920096537 | C | 3.7020976232 | -1.4674068416 | 1.3118879321 |
| C | 4.8772947129 | -2.5014190184 | 1.9944228605 | C | 4.2406349246 | -2.3186148154 | 2.4378474759 |
| C | 2.5812757585 | 0.1919309448 | -0.7245950628 | C | 2.6999822365 | 0.4877542786 | -0.7242752133 |
| C | 3.9106443841 | 0.501263726 | 0.0359920443 | C | 4.0789499709 | 0.6582189306 | -0.0116632558 |
| C | 2.9070177055 | 0.4223736201 | -2.21651983 | C | 2.9881962475 | 0.9628462785 | -2.1693016241 |
| O | 2.2763535575 | 1.5674013377 | -2.6718065847 | O | 2.2985202918 | 2.1231759386 | -2.4412413271 |
| O | 3.6182951134 | -0.2234591584 | -2.9393686813 | O | 3.7256001469 | 0.469276913 | -2.9801671488 |
| C | 4.8081747359 | -0.7323318943 | 0.1535431586 | C | 4.1830814574 | -0.0337442409 | 1.3442951624 |
| O | -3.4987557916 | 1.0416163227 | 0.495140821 | O | -3.4323493379 | 0.9159499055 | 0.4953906482 |
| H | -0.1960411904 | -1.7662709233 | 1.2656998402 | H | 0.0357924933 | -1.7176048983 | 0.90131147 |
| H | -1.8643017894 | -0.5770700388 | 0.1913162031 | H | -1.6801825316 | -0.5517872952 | -0.024126484 |
| H | 2.574608155 | -1.8170964919 | -1.4385140801 | H | 2.8529316999 | -1.4014009806 | -1.698227712 |
| H | -1.5413244001 | 1.8264270202 | 3.2017966565 | H | -1.7789832709 | 2.0527610627 | 3.7789747902 |
| H | -0.906137089 | 3.4002673208 | 3.6347331466 | H | -0.118729684 | 2.6768793284 | 3.7383622818 |
| H | 0.6096707492 | 1.2991439997 | 4.0338873317 | H | -1.0387708814 | 0.1273946903 | 2.3308814664 |
| H | 1.8006666672 | 0.4308877815 | 2.0247832297 | H | 1.7379117263 | 1.3181098187 | 2.6904067242 |
| H | 0.0691542847 | 0.1892977413 | 1.9597938229 | H | 1.371646836 | -0.1402516229 | 1.7908685796 |
| H | 0.6335387258 | 3.6858305093 | -2.7677160534 | H | 0.5740394675 | 4.1320061316 | -2.2468189936 |
| H | 1.5813341822 | 3.5651985016 | 4.1716828855 | H | -0.9274236816 | -0.2025141609 | 4.7971459154 |
| H | 1.8285431753 | 3.6131655724 | 2.4210946108 | H | 0.7188349082 | 0.449498056 | 4.8295495744 |
| H | 2.7249917968 | 2.4510221643 | 3.4099066834 | H | 0.387006099 | -1.0797121217 | 3.9980333253 |
| H | -0.8079959661 | 5.245222759 | -1.8736702006 | H | -0.9418863735 | 5.4773660077 | -1.1736716164 |
| H | -2.1588849787 | 4.3547436512 | -1.1452539872 | H | -2.2607697483 | 4.4337568699 | -0.6088617612 |
| H | -1.1484343444 | 5.3550898724 | -0.1303227658 | H | -1.3186835174 | 5.3283855292 | 0.5591307535 |
| H | -4.2452453286 | -3.7929951022 | 0.3071548297 | H | -3.9080300841 | -3.8832531889 | -0.2587591141 |
| H | -4.3809968562 | -3.4233628435 | 2.0145745422 | H | -4.0775207962 | -3.7080961185 | 1.4770718533 |
| H | -4.1057978091 | -1.0147368741 | 1.5957688356 | H | -3.9194665652 | -1.2597704061 | 1.3270436745 |
| H | -5.484174675 | -1.6305399134 | 0.6907075669 | H | -5.2588853212 | -1.837586356 | 0.3436352942 |

| | | | | | | | |
|------------|---------------|---------------|---------------|------------|---------------|---------------|---------------|
| H | -2.0631500329 | -4.1283500933 | 1.5147222485 | H | -1.7169115215 | -4.2331086368 | 0.9357598569 |
| H | -2.1167563787 | -2.4568497138 | 2.0612389685 | H | -1.8631842171 | -2.6322148515 | 1.6513675296 |
| H | -1.8884898528 | -1.5579216097 | -2.7006951595 | H | -1.6687594223 | -1.2602897732 | -2.9960073009 |
| H | -1.8284874815 | 0.1017117687 | -2.1624903677 | H | -1.6762887911 | 0.3434062851 | -2.3062831955 |
| H | 0.5090187633 | -0.4750027957 | -2.5388172865 | H | 0.68291451 | -0.058450913 | -2.6961308863 |
| H | -2.7133455757 | -3.9676813152 | -1.4598757588 | H | -2.3916150535 | -3.6488850183 | -2.1047468259 |
| H | -1.0747266829 | -3.5700297164 | -1.9783754426 | H | -0.6924304326 | -3.3201999459 | -2.4353898196 |
| H | -1.3366508984 | -4.7342567371 | -0.6807096305 | H | -1.1518453059 | -4.6096844469 | -1.3222829701 |
| H | -4.1260513716 | -1.3215327556 | -2.7157948015 | H | -3.9017739309 | -1.0999493869 | -2.9948767272 |
| H | -5.5692377326 | -1.4829939043 | -1.729402006 | H | -5.3505024463 | -1.3694759846 | -2.041230128 |
| H | -4.3986397856 | -2.8067829732 | -1.7904762944 | H | -4.1703689265 | -2.671320823 | -2.2211028704 |
| H | 1.7071854038 | -2.7497569004 | 2.3745593666 | H | 3.0091150637 | -4.0327876832 | 0.7853664942 |
| H | 2.629867736 | -3.999361693 | 1.5616671797 | H | 2.7555104033 | -3.6214472544 | -0.8965379708 |
| H | 0.174492014 | -4.2756466276 | 1.3102764581 | H | 0.7272891523 | -3.8344646542 | 1.3206764949 |
| H | 0.9718559826 | -4.1225491341 | -0.2540966017 | H | 0.6436652282 | -4.3830125349 | -0.3412220559 |
| H | 4.3333335479 | -3.2909100731 | 2.5147159338 | H | 3.7772122845 | -3.3039905592 | 2.5047444728 |
| H | 5.7878107484 | -2.9428767458 | 1.5669356159 | H | 5.3255183767 | -2.4604229355 | 2.3375828127 |
| H | 5.2127573549 | -1.7770054323 | 2.7496915333 | H | 4.0829109543 | -1.8131831849 | 3.4000025044 |
| H | 4.4319806391 | 1.3255456485 | -0.4644529766 | H | 4.8309882966 | 0.2212342417 | -0.6778938683 |
| H | 3.6622299908 | 0.8531363478 | 1.0414244411 | H | 4.3087361542 | 1.7257965698 | 0.0795177689 |
| H | 5.7339394668 | -0.4584473635 | 0.6723598942 | H | 3.6597624269 | 0.5308444772 | 2.1263305639 |
| H | 5.1001524851 | -1.0803800594 | -0.846544728 | H | 5.2395812858 | -0.0264189185 | 1.6465691867 |
| H | -3.6195390498 | 2.0050635326 | 0.4091126225 | H | -3.5881171688 | 1.8777382391 | 0.5228639065 |
| 1-3 | X axis(Å) | Y axis(Å) | Z axis(Å) | 1-4 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | -0.645659785 | 2.2818535866 | 3.104919452 | C | -1.4106900973 | 2.2115619204 | 2.9945564667 |
| C | -0.2146844618 | 0.8327775855 | 2.8447131233 | C | -0.7258124785 | 0.8427611926 | 2.8844332132 |
| C | 1.0628923608 | 0.8532250488 | 1.9994297467 | C | 0.6055977585 | 1.0213518859 | 2.1475242653 |
| C | 1.0001081193 | 1.7204313494 | 0.7568813635 | C | 0.5235646326 | 1.8123579521 | 0.8541224778 |
| C | 0.1239899321 | 2.8478349574 | 0.7124300571 | C | -0.5183679124 | 2.7663052691 | 0.6462858648 |
| C | -0.8889978968 | 3.0062352105 | 1.7971676916 | C | -1.6406669545 | 2.8199283106 | 1.6249919229 |
| C | 1.7951161816 | 1.4386841014 | -0.3649304038 | C | 1.4992705506 | 1.6582614988 | -0.1377781437 |
| C | 1.7338507117 | 2.3299340286 | -1.4370341493 | C | 1.4792561048 | 2.5387938929 | -1.2168489615 |
| C | 0.9735884193 | 3.4840411816 | -1.468385887 | C | 0.5207975407 | 3.5142628656 | -1.4188979475 |
| C | 0.1273438668 | 3.7499381507 | -0.3895754006 | C | -0.5250858053 | 3.6182208795 | -0.4969859211 |
| C | -0.0193626857 | 0.0489567157 | 4.146731043 | C | -0.5312628628 | 0.1848302097 | 4.254500413 |
| O | -1.9234231154 | 3.6526082525 | 1.6348526934 | O | -2.7362291135 | 3.3057792457 | 1.3441200885 |
| C | -0.7325781848 | 4.9910353629 | -0.4666890936 | C | -1.5832067548 | 4.6647029993 | -0.7623981756 |
| C | -3.9908336629 | 0.4870857673 | -0.4430559985 | C | -4.0412255052 | 0.0362820019 | -0.8134517608 |
| O | -4.6621590339 | 1.1980938662 | -1.1625408734 | O | -4.6516511717 | 0.6031391222 | -1.6970493265 |
| C | -3.8006691327 | -3.2549380968 | 0.5758180608 | C | -3.4172351826 | -3.507149894 | 0.6426633638 |
| C | -4.2844743412 | -1.8003512079 | 0.5400836603 | C | -4.1092759055 | -2.1643439963 | 0.3890970536 |
| C | -3.7081721893 | -1.0116400683 | -0.6728453174 | C | -3.5412700299 | -1.421389835 | -0.855893154 |
| C | -2.1436276663 | -1.1799799033 | -0.7107324349 | C | -1.9674462557 | -1.3472325755 | -0.7627534966 |

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| C | -1.5476799989 | -2.6117203614 | -0.5099910514 | C | -1.1907325784 | -2.6338245425 | -0.3247149249 |
| C | -2.271073108 | -3.3146829102 | 0.6680721547 | C | -1.9156316856 | -3.3012888212 | 0.8716807324 |
| C | -1.4880008828 | -0.51104693 | -1.9256870493 | C | -1.3119563582 | -0.740401399 | -2.0124171168 |
| C | 0.0111902045 | -0.5576153038 | -1.8130506475 | C | 0.1763957306 | -0.622077115 | -1.8420393281 |
| C | 0.6702985203 | -1.3152062967 | -0.925413489 | C | 0.8776512682 | -1.1704923598 | -0.8378112929 |
| C | -0.0463647975 | -2.383980083 | -0.1096280108 | C | 0.2139951052 | -2.1168962822 | 0.1683069903 |
| C | -1.6367832592 | -3.4948690435 | -1.7759110769 | C | -1.0278573053 | -3.6578796198 | -1.4715265839 |
| C | -4.4435700636 | -1.4189436214 | -1.9643665367 | C | -4.0901396392 | -2.0597900327 | -2.1461203658 |
| C | 2.197838851 | -1.1955705499 | -0.7161334971 | C | 2.3692841999 | -0.8190462709 | -0.7048043803 |
| C | 2.6921091307 | -1.9833620988 | 0.5068054124 | C | 3.1677151416 | -1.8578781507 | 0.0783724422 |
| C | 2.1364074609 | -3.4003343881 | 0.6284965386 | C | 2.5453360727 | -3.2260154417 | -0.0537356299 |
| C | 0.8409750643 | -3.6435919521 | -0.1607978367 | C | 1.1731971943 | -3.2575317342 | 0.6370586903 |
| C | 3.6090682745 | -1.5204902959 | 1.3809566995 | C | 4.332500298 | -1.5872365439 | 0.6985480004 |
| C | 4.1293881783 | -2.3026375518 | 2.5649230539 | C | 5.2353913039 | -2.60709403 | 1.349753117 |
| C | 2.7204211028 | 0.2896482559 | -0.7944999237 | C | 2.6904022025 | 0.7225306478 | -0.3236869384 |
| C | 4.1565401692 | 0.3771685092 | -0.1895043959 | C | 3.7158496579 | 0.8459368699 | 0.8355145504 |
| C | 2.9657847642 | 0.6605598723 | -2.2743987636 | C | 3.3251096898 | 1.3260042184 | -1.5962226896 |
| O | 2.4619305963 | 1.9176535297 | -2.5372999979 | O | 2.5368788236 | 2.3544434545 | -2.0844108756 |
| O | 3.5577716313 | 0.0339305095 | -3.1118104836 | O | 4.3358423575 | 1.0039926902 | -2.1619795994 |
| C | 4.2502032658 | -0.1605452137 | 1.2307204133 | C | 4.8544098087 | -0.1687937044 | 0.7567038762 |
| O | -3.3977899991 | 0.9689328792 | 0.6808100043 | O | -3.7080168117 | 0.660951228 | 0.343776733 |
| H | -0.0585964058 | -2.0559760406 | 0.9435871779 | H | -0.0102128687 | -1.5205471952 | 1.0626014062 |
| H | -1.7962038616 | -0.6215464101 | 0.1660537717 | H | -1.7858577268 | -0.6367458644 | 0.0511484172 |
| H | 2.6728922992 | -1.6870911009 | -1.5807046273 | H | 2.7614762918 | -0.9198246164 | -1.7256179225 |
| H | -1.5612125694 | 2.3448790133 | 3.6994464257 | H | -2.378136983 | 2.1504631143 | 3.5002622286 |
| H | 0.1534025578 | 2.8029331158 | 3.6555765176 | H | -0.7685660636 | 2.8920000682 | 3.5759050797 |
| H | -1.0105584437 | 0.3466749733 | 2.2637922338 | H | -1.3749404654 | 0.1951960847 | 2.2790832772 |
| H | 1.8729768672 | 1.2434753439 | 2.6355163356 | H | 1.2935356208 | 1.5582130006 | 2.8203500208 |
| H | 1.3554316892 | -0.1632592557 | 1.7326470152 | H | 1.068180054 | 0.0482077141 | 1.9643424862 |
| H | 1.0030866874 | 4.1350732703 | -2.3355158459 | H | 0.5786310541 | 4.1704047125 | -2.280575112 |
| H | -0.9454804717 | 0.0202302957 | 4.7307921367 | H | -1.4916865801 | 0.0374054372 | 4.7597012413 |
| H | 0.7564866451 | 0.5091905744 | 4.7713113692 | H | 0.0973916216 | 0.8062377492 | 4.9042765831 |
| H | 0.2828557885 | -0.9850027489 | 3.9454472232 | H | -0.048887002 | -0.7947011235 | 4.1594000223 |
| H | -0.357548315 | 5.6499399678 | -1.2552554753 | H | -1.2444749029 | 5.3380618286 | -1.5549342099 |
| H | -1.7733919221 | 4.7389978378 | -0.688548681 | H | -2.5254443497 | 4.206250407 | -1.0759239823 |
| H | -0.7489056531 | 5.5416121811 | 0.4766055583 | H | -1.8157431132 | 5.2529195368 | 0.1282644703 |
| H | -4.1584390356 | -3.8053874791 | -0.3025988112 | H | -3.5916719473 | -4.2004634121 | -0.1889770815 |
| H | -4.2386850627 | -3.7577399295 | 1.446670218 | H | -3.8609235502 | -3.9788852499 | 1.5279188707 |
| H | -3.9759301282 | -1.3078484635 | 1.4692261199 | H | -3.9778464923 | -1.5351826422 | 1.2757975075 |
| H | -5.3800231155 | -1.7577235386 | 0.505619646 | H | -5.1893309353 | -2.3033874669 | 0.2565765137 |
| H | -1.9395833961 | -4.3579344405 | 0.7392167866 | H | -1.4373960441 | -4.2590077968 | 1.1090300089 |
| H | -1.9721390571 | -2.8287284162 | 1.6080999918 | H | -1.7927771542 | -2.665405207 | 1.7607975393 |
| H | -1.8222954323 | -0.9675161231 | -2.8668909404 | H | -1.5423605273 | -1.3256494478 | -2.9128128888 |

| | | | | | | | |
|------------|---------------|---------------|---------------|------------|---------------|---------------|---------------|
| H | -1.7953859605 | 0.5416588603 | -1.9897020209 | H | -1.7231321476 | 0.2594686614 | -2.207128403 |
| H | 0.5449242568 | 0.127393672 | -2.4652478681 | H | 0.6912253095 | 0.002561544 | -2.572188982 |
| H | -2.6630843816 | -3.6000596109 | -2.131453393 | H | -1.9920092327 | -3.9788312103 | -1.8699574075 |
| H | -1.0406540842 | -3.0925697508 | -2.5995208904 | H | -0.4432563259 | -3.2548434641 | -2.30216448 |
| H | -1.2663894299 | -4.5029660616 | -1.5661279278 | H | -0.5172181429 | -4.559716544 | -1.1202548876 |
| H | -4.0662464578 | -0.8827853835 | -2.8373423694 | H | -3.7383952235 | -1.5446459155 | -3.0415774567 |
| H | -5.5061545426 | -1.1771052644 | -1.8774881504 | H | -5.1820771529 | -1.998692158 | -2.1534671194 |
| H | -4.3551190339 | -2.4896341317 | -2.1532525609 | H | -3.8113824356 | -3.1122052041 | -2.2204166546 |
| H | 1.9339514946 | -3.6134492775 | 1.6837581065 | H | 3.181047388 | -4.010095294 | 0.3616642783 |
| H | 2.9013958946 | -4.1258464484 | 0.317634449 | H | 2.4154654748 | -3.4606977132 | -1.1211401209 |
| H | 0.3253646262 | -4.5121771337 | 0.2621356839 | H | 1.3317190883 | -3.1767366636 | 1.7185711672 |
| H | 1.0648961477 | -3.8882258074 | -1.2053776618 | H | 0.7175510033 | -4.2378895179 | 0.4722825582 |
| H | 3.5129872105 | -3.1604729857 | 2.8377343831 | H | 4.8969430579 | -3.6379731557 | 1.2384267658 |
| H | 5.1430857911 | -2.6774360544 | 2.3645938481 | H | 6.2450159318 | -2.5409178981 | 0.9222405016 |
| H | 4.2086583195 | -1.6514109451 | 3.4450475376 | H | 5.3408720853 | -2.4015398659 | 2.4237046875 |
| H | 4.811302678 | -0.2188583236 | -0.8351689571 | H | 4.1083635024 | 1.8695296581 | 0.853703806 |
| H | 4.5075535703 | 1.4140907372 | -0.2382358027 | H | 3.1866484753 | 0.6937855903 | 1.7788849866 |
| H | 3.8193400032 | 0.5458696352 | 1.9534244556 | H | 5.492252393 | -0.0468270622 | 1.6413950655 |
| H | 5.3123044818 | -0.2364298901 | 1.5009741855 | H | 5.4911916537 | 0.0364675966 | -0.1138436626 |
| H | -3.5642827889 | 1.9275386931 | 0.7375919577 | H | -3.9657676718 | 1.5999029789 | 0.2984672323 |
| 1-5 | X axis(Å) | Y axis(Å) | Z axis(Å) | 2-1 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | -0.2947009522 | 2.6421530052 | 2.8277049934 | C | 5.2047167233 | -1.4716699707 | 1.803437339 |
| C | 0.9161232789 | 1.7187100572 | 3.006639111 | C | 4.2529397079 | -0.4299026837 | 2.39854594 |
| C | 0.9808310668 | 0.7958580325 | 1.7753345171 | C | 3.7163854483 | 0.4266896197 | 1.2425155735 |
| C | 1.1430163707 | 1.5627726554 | 0.4802112702 | C | 3.0951266486 | -0.3717880702 | 0.1081500623 |
| C | 0.4642722254 | 2.8110950166 | 0.3419871349 | C | 3.5323830127 | -1.7051031461 | -0.1663598126 |
| C | -0.464132947 | 3.2261914031 | 1.4301932366 | C | 4.576308765 | -2.3214299731 | 0.7071287906 |
| C | 1.8616948603 | 1.058951601 | -0.6117571443 | C | 2.1107216097 | 0.197166738 | -0.7088383041 |
| C | 1.8976544299 | 1.8377919408 | -1.7708179567 | C | 1.6271962736 | -0.5488235495 | -1.7807516932 |
| C | 1.3270760548 | 3.0899160769 | -1.9048951816 | C | 2.0249180587 | -1.838878925 | -2.0747202732 |
| C | 0.5779568318 | 3.5961034067 | -0.8390392595 | C | 2.9852674337 | -2.445674059 | -1.2579614723 |
| C | 2.2216311389 | 2.4890604573 | 3.2618535429 | C | 3.1390230032 | -1.0686976543 | 3.2432331421 |
| O | -1.4060256303 | 3.9922742192 | 1.2256066871 | O | 4.9647736981 | -3.4769568405 | 0.560709841 |
| C | -0.0737803544 | 4.9480990703 | -1.0170637268 | C | 3.3894085552 | -3.8584897742 | -1.6104412243 |
| C | -3.9930634916 | 0.8812100823 | -0.3119033959 | C | -3.4917822292 | -3.1699907927 | -0.5596082928 |
| O | -4.6324442716 | 1.5807424094 | -1.0705432249 | O | -3.4228759975 | -4.3224647799 | -0.1822176771 |
| C | -4.216911779 | -2.7035116103 | 1.1617287029 | C | -5.6984820897 | -0.0569928771 | 0.1176002304 |
| C | -4.5104397169 | -1.2112121259 | 0.9659430119 | C | -5.2537639468 | -1.4034230149 | -0.4640756502 |
| C | -3.9145563358 | -0.6585175871 | -0.3625226325 | C | -4.0038628933 | -1.9791764112 | 0.2668914752 |
| C | -2.390387513 | -1.0384286839 | -0.4486356897 | C | -2.8651112934 | -0.8876017567 | 0.2823534815 |
| C | -1.9698287044 | -2.5035255727 | -0.0970418714 | C | -3.2626783449 | 0.5573181663 | 0.7328161036 |
| C | -2.7051261571 | -2.9593284979 | 1.1904336931 | C | -4.5721948732 | 0.9782253978 | 0.0159462386 |
| C | -1.729366757 | -0.609728007 | -1.7649420905 | C | -1.6008742755 | -1.3461806323 | 1.0238084545 |

| | | | | | | | |
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| C | -0.2436858015 | -0.83845889 | -1.7108741183 | C | -0.5304314528 | -0.290566207 | 1.0023609875 |
| C | 0.36436954 | -1.5683885057 | -0.765577264 | C | -0.7144910226 | 0.9778174706 | 0.6016626578 |
| C | -0.4316720258 | -2.4291595855 | 0.2072946071 | C | -2.1063873793 | 1.5031612106 | 0.2315352307 |
| C | -2.2424603322 | -3.5115688607 | -1.2368914319 | C | -3.4329470714 | 0.6763872627 | 2.2658380143 |
| C | -4.7732366755 | -1.1173319878 | -1.5570077407 | C | -4.4140863961 | -2.5414668107 | 1.6433192522 |
| C | 1.9038758519 | -1.6257410013 | -0.6356391187 | C | 0.5102023098 | 1.9105567755 | 0.4760516846 |
| C | 2.3629300741 | -2.304004632 | 0.6635421316 | C | 0.1227035017 | 3.386819964 | 0.5463920804 |
| C | 1.6419696917 | -3.6077251445 | 0.9994245926 | C | -1.0977314542 | 3.5732933364 | 1.4117119583 |
| C | 0.292148835 | -3.7874067072 | 0.2875838055 | C | -2.3078819869 | 2.9950348592 | 0.6572259742 |
| C | 3.3786661512 | -1.8561066682 | 1.4301220165 | C | 0.7276075575 | 4.3680121456 | -0.1492760792 |
| C | 3.8598051046 | -2.5401719462 | 2.6894169591 | C | 0.3349729223 | 5.8261212098 | -0.1100000057 |
| C | 2.6002010082 | -0.2476992269 | -0.9321850529 | C | 1.4332037479 | 1.5636787232 | -0.756399096 |
| C | 4.07191825 | -0.2740942676 | -0.4070320163 | C | 2.470412007 | 2.7005588826 | -0.9644526008 |
| C | 2.8122089595 | -0.0877088945 | -2.4536693732 | C | 0.55660144 | 1.4097560394 | -2.0164983856 |
| O | 2.5065828253 | 1.2032879095 | -2.837347765 | O | 0.7104749811 | 0.1380008378 | -2.5467564535 |
| O | 3.2484251155 | -0.8884324186 | -3.2361896279 | O | -0.1757012176 | 2.2055537371 | -2.5410589339 |
| C | 4.1812636415 | -0.627423344 | 1.0680707767 | C | 1.8401253587 | 4.0808542597 | -1.1298484966 |
| O | -3.2554138221 | 1.4156745858 | 0.6971935079 | O | -3.1149305644 | -2.8238681847 | -1.8208480792 |
| H | -0.3419564782 | -1.9777140359 | 1.20908977 | H | -2.1635678273 | 1.4857306907 | -0.8651687888 |
| H | -1.923798667 | -0.4318223049 | 0.3360110234 | H | -2.5822738106 | -0.7774184957 | -0.771625781 |
| H | 2.2639241258 | -2.2835265368 | -1.4436318621 | H | 1.126100638 | 1.7100822321 | 1.3628524373 |
| H | -1.2233511053 | 2.0923302293 | 3.0312230465 | H | 6.0690669829 | -0.9620406399 | 1.3508467256 |
| H | -0.2845168928 | 3.4863682006 | 3.5277574524 | H | 5.601279252 | -2.1588694897 | 2.5565838298 |
| H | 0.7324764474 | 1.0838075217 | 3.8830995204 | H | 4.8320527521 | 0.2299638012 | 3.0575397568 |
| H | 1.770325368 | 0.054622771 | 1.8839300936 | H | 2.9992712933 | 1.1574266712 | 1.6249338661 |
| H | 0.0419512703 | 0.2270952835 | 1.7268116665 | H | 4.5523820761 | 1.0116515048 | 0.8309820006 |
| H | 1.4246721117 | 3.6386166607 | -2.8355752568 | H | 1.6021556645 | -2.3622979409 | -2.9253610537 |
| H | 2.1363306146 | 3.0970167225 | 4.1692846512 | H | 3.5654303952 | -1.6469666813 | 4.0698751841 |
| H | 2.4720774659 | 3.1608006137 | 2.433981927 | H | 2.5145898903 | -1.7487216995 | 2.6535373013 |
| H | 3.0639708544 | 1.8023900636 | 3.4014325715 | H | 2.4849534769 | -0.3021879326 | 3.6734722987 |
| H | 0.3750721682 | 5.4657727099 | -1.869774735 | H | 2.8426590968 | -4.1863215264 | -2.4994108354 |
| H | -1.1481925115 | 4.8478920346 | -1.1951942495 | H | 4.4625237921 | -3.9369544615 | -1.8027276172 |
| H | 0.028208069 | 5.5752197871 | -0.1283589188 | H | 3.1858399488 | -4.5526958602 | -0.791013341 |
| H | -4.6969857296 | -3.3000914429 | 0.3767374788 | H | -6.0277931173 | -0.172911264 | 1.1572427708 |
| H | -4.6610871274 | -3.0357417342 | 2.1079785711 | H | -6.5736820844 | 0.3013320827 | -0.437967651 |
| H | -4.0826042044 | -0.6581452062 | 1.8100650517 | H | -5.0166666179 | -1.2642394582 | -1.5247428093 |
| H | -5.5912683308 | -1.0246098916 | 0.9775634362 | H | -6.0684472553 | -2.1363484719 | -0.4110231794 |
| H | -2.5076352372 | -4.0224701049 | 1.3752827775 | H | -4.9171665789 | 1.942797636 | 0.4069033978 |
| H | -2.2884810383 | -2.4122776641 | 2.048640876 | H | -4.3516404237 | 1.1373547122 | -1.0492570137 |
| H | -2.1724833106 | -1.1268179026 | -2.6264578998 | H | -1.8238300815 | -1.6279338667 | 2.0619194098 |
| H | -1.9063510473 | 0.4592232871 | -1.946229547 | H | -1.2015188201 | -2.2582697145 | 0.5585593774 |
| H | 0.3341151365 | -0.3079550797 | -2.462369004 | H | 0.4633354349 | -0.6152652317 | 1.3023364326 |
| H | -3.2939983382 | -3.528236074 | -1.5285024176 | H | -4.2013481881 | 0.0035807392 | 2.6473849545 |

| | | | | | | | |
|------------|---------------|---------------|---------------|------------|---------------|---------------|---------------|
| H | -1.654194576 | -3.2886521651 | -2.1312603909 | H | -2.5043695613 | 0.4536896138 | 2.798283561 |
| H | -1.9826397791 | -4.526169481 | -0.9195657899 | H | -3.7362862364 | 1.6880149182 | 2.549671008 |
| H | -4.3872072671 | -0.7424263635 | -2.5070081069 | H | -3.5615013511 | -2.9375597815 | 2.19849256 |
| H | -5.7904675048 | -0.7309296117 | -1.4524534744 | H | -5.1153264217 | -3.3687981723 | 1.5071123954 |
| H | -4.8287361206 | -2.2052226972 | -1.6136858243 | H | -4.902906738 | -1.7848936654 | 2.2568151302 |
| H | 1.4611234711 | -3.6463035494 | 2.07933378 | H | -1.27884154 | 4.6200068621 | 1.6632014207 |
| H | 2.2973588274 | -4.4608631068 | 0.7741866671 | H | -0.9686332289 | 3.0378225084 | 2.3635992304 |
| H | -0.3029948911 | -4.5252895862 | 0.8357785327 | H | -2.4730505311 | 3.6047197096 | -0.2370750299 |
| H | 0.436050508 | -4.1864239374 | -0.7230882951 | H | -3.203252022 | 3.1071461424 | 1.2742715468 |
| H | 3.1473435486 | -3.2524937536 | 3.1083570175 | H | -0.5095563786 | 6.0419201624 | 0.5451117274 |
| H | 4.7957581056 | -3.0847060624 | 2.5003864577 | H | 1.1807760921 | 6.4450230091 | 0.2186741723 |
| H | 4.0860877064 | -1.7960538324 | 3.4640485659 | H | 0.070108717 | 6.1722409051 | -1.1182906866 |
| H | 4.6050211786 | -1.0323360921 | -0.9914954922 | H | 3.1056084115 | 2.4608265146 | -1.8251119482 |
| H | 4.5478249898 | 0.6910747322 | -0.6133820337 | H | 3.122616659 | 2.7080956452 | -0.0860750005 |
| H | 3.8923469086 | 0.2241430325 | 1.7014384457 | H | 1.4402951509 | 4.2000038446 | -2.1463978892 |
| H | 5.2388130024 | -0.8113633657 | 1.3018789683 | H | 2.6283288271 | 4.8396168384 | -1.0269045123 |
| H | -3.3036897595 | 2.3874501684 | 0.6386263343 | H | -2.8252740124 | -3.6419129128 | -2.25837134 |
| 2-2 | X axis(Å) | Y axis(Å) | Z axis(Å) | 2-3 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | 5.1322274883 | -1.6214766013 | 1.7341960031 | C | 5.1383226374 | -1.6830785608 | 1.7332964014 |
| C | 4.2285373669 | -0.5629609237 | 2.3734075936 | C | 4.2673574057 | -0.5842803572 | 2.3491287393 |
| C | 3.703822086 | 0.3442189743 | 1.2510994102 | C | 3.7483827048 | 0.2975428052 | 1.2042022891 |
| C | 3.0524557992 | -0.3965068272 | 0.0941190092 | C | 3.0597655076 | -0.4665634508 | 0.0847195363 |
| C | 3.4283537705 | -1.7409763351 | -0.2151105707 | C | 3.4018306328 | -1.8282382241 | -0.1863197638 |
| C | 4.4439241577 | -2.4256306284 | 0.6397859964 | C | 4.4213832388 | -2.504521528 | 0.6700228823 |
| C | 2.0983486561 | 0.2387932147 | -0.7098876937 | C | 2.103213597 | 0.1614883861 | -0.7217161705 |
| C | 1.5827459776 | -0.4567065664 | -1.8007631766 | C | 1.5508486141 | -0.5591513117 | -1.777697292 |
| C | 1.9169005099 | -1.7573037439 | -2.1256822912 | C | 1.8496140973 | -1.8771128497 | -2.0635750368 |
| C | 2.8464913346 | -2.4280392237 | -1.3239942404 | C | 2.7816228705 | -2.5400442685 | -1.2583591612 |
| C | 3.1072954627 | -1.1860677793 | 3.2201868414 | C | 3.1434585723 | -1.1537799945 | 3.2295156006 |
| O | 4.7617504989 | -3.6011671148 | 0.480751698 | O | 4.7222620308 | -3.6877449001 | 0.5362679781 |
| C | 3.1840783111 | -3.8493907182 | -1.7110081511 | C | 3.0781297155 | -3.9817773841 | -1.6006335125 |
| C | -3.3603828641 | -3.1333516139 | -0.5976595204 | C | -3.4886890268 | -3.0436609691 | -0.5792866042 |
| O | -2.9847204325 | -3.0220692914 | -1.7480188046 | O | -2.5692695798 | -3.0298983615 | -1.3729827437 |
| C | -5.6379190528 | -0.0791784271 | -0.0224427134 | C | -5.6314784108 | 0.0762663222 | 0.0820495075 |
| C | -5.1610012034 | -1.4386469654 | -0.5431231503 | C | -5.2056193656 | -1.2935816357 | -0.4540309126 |
| C | -3.9358220957 | -1.9836971713 | 0.2489185429 | C | -3.9608448667 | -1.8689756586 | 0.2947915569 |
| C | -2.8084826162 | -0.8793815878 | 0.2730638243 | C | -2.8147762857 | -0.7992076918 | 0.3168571031 |
| C | -3.232471464 | 0.575527307 | 0.6624112068 | C | -3.1997105087 | 0.6694935749 | 0.7050760227 |
| C | -4.5171334614 | 0.962508407 | -0.1154635616 | C | -4.4878188752 | 1.0874994891 | -0.0487495738 |
| C | -1.5675116252 | -1.3049201868 | 1.0714329692 | C | -1.5824405326 | -1.2462642285 | 1.1181817164 |
| C | -0.5059680299 | -0.240776043 | 1.0589102589 | C | -0.4935980027 | -0.2103696683 | 1.0796714346 |
| C | -0.6847006364 | 1.0131089571 | 0.6139215363 | C | -0.6442209465 | 1.0412376957 | 0.6178534319 |
| C | -2.0645611343 | 1.5145809573 | 0.1746724932 | C | -2.0167039571 | 1.5761709969 | 0.1951156933 |

| | | | | | | | |
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| C | -3.460941933 | 0.7431568948 | 2.1832770617 | C | -3.4021172749 | 0.8530750491 | 2.2285086967 |
| C | -4.391547702 | -2.5064027163 | 1.627248235 | C | -4.3842825318 | -2.4154720166 | 1.6793278773 |
| C | 0.5343219667 | 1.9518439163 | 0.5139766558 | C | 0.59842485 | 1.9431005721 | 0.4757923467 |
| C | 0.1435568626 | 3.4276026033 | 0.5997006296 | C | 0.2480973212 | 3.4300072684 | 0.5310636856 |
| C | -1.1315029389 | 3.6010262742 | 1.3860566305 | C | -0.9978803859 | 3.6558410299 | 1.3500139274 |
| C | -2.2847557507 | 3.0169374087 | 0.5497597574 | C | -2.1921306919 | 3.0867719203 | 0.5622888773 |
| C | 0.7959041129 | 4.4209135173 | -0.033338058 | C | 0.905480959 | 4.3893398731 | -0.1475168931 |
| C | 0.4134912329 | 5.8813311661 | 0.02109293 | C | 0.5591172602 | 5.8595346714 | -0.123416886 |
| C | 1.4736517441 | 1.6307135812 | -0.7156710569 | C | 1.50636895 | 1.564925008 | -0.761096887 |
| C | 2.5438602609 | 2.746931643 | -0.8426022856 | C | 2.5956294705 | 2.653937367 | -0.9476241924 |
| C | 0.6172176145 | 1.5592038276 | -1.996975506 | C | 0.6223673345 | 1.4685975125 | -2.0219474378 |
| O | 0.7043173702 | 0.292843217 | -2.5523202286 | O | 0.6733458429 | 0.1843040061 | -2.5369957571 |
| O | -0.0565311032 | 2.4089386068 | -2.5156995239 | O | -0.0453312601 | 2.3149422773 | -2.5546897376 |
| C | 1.9545923954 | 4.150699934 | -0.9643337554 | C | 2.0319443338 | 4.0650808168 | -1.1005662229 |
| O | -3.299505449 | -4.329580241 | 0.0437035394 | O | -4.2661513043 | -4.1511717714 | -0.4346282944 |
| H | -2.0851005479 | 1.4628428444 | -0.9222081658 | H | -2.0542585113 | 1.5185959369 | -0.9010125203 |
| H | -2.4941939269 | -0.8084544092 | -0.776171569 | H | -2.4877993075 | -0.7392646645 | -0.7284343882 |
| H | 1.1456874058 | 1.7378471395 | 1.4008419953 | H | 1.2184813374 | 1.7346367461 | 1.3579903761 |
| H | 6.0004345745 | -1.1295894106 | 1.2695703865 | H | 6.0131533689 | -1.2267421203 | 1.2453879065 |
| H | 5.5238397505 | -2.3366429929 | 2.4634117862 | H | 5.5211249306 | -2.3849869173 | 2.4799523298 |
| H | 4.8415051296 | 0.0574149348 | 3.0401281438 | H | 4.9028879239 | 0.043176187 | 2.9875803159 |
| H | 3.0080033259 | 1.0787764424 | 1.6651206565 | H | 3.0781455082 | 1.0636882242 | 1.6027991231 |
| H | 4.5506484806 | 0.9224082104 | 0.8526015742 | H | 4.6033384096 | 0.8394588411 | 0.7732836002 |
| H | 1.4655773047 | -2.2399021469 | -2.9856190225 | H | 1.3659425847 | -2.3806177691 | -2.893223615 |
| H | 3.5269137198 | -1.8031371162 | 4.0219313045 | H | 3.559622532 | -1.7528715453 | 4.046599466 |
| H | 2.4486889838 | -1.8259922796 | 2.6228041684 | H | 2.4637704121 | -1.7983730805 | 2.6615626649 |
| H | 2.4890912328 | -0.4095018789 | 3.6841257966 | H | 2.5480248864 | -0.3486657966 | 3.674216926 |
| H | 2.6284146438 | -4.1267082 | -2.6114290718 | H | 2.4906107032 | -4.2800592719 | -2.473629529 |
| H | 4.2535506414 | -3.975380638 | -1.8987193186 | H | 4.1389603137 | -4.1379968656 | -1.8131526491 |
| H | 2.9412228971 | -4.5536907111 | -0.9110750009 | H | 2.8430627842 | -4.650136418 | -0.7682369573 |
| H | -6.0065293935 | -0.163694012 | 1.007295686 | H | -5.9644597371 | -0.0044251835 | 1.1240744869 |
| H | -6.4940138271 | 0.2528345121 | -0.6222907214 | H | -6.5006820002 | 0.4280065622 | -0.4870332706 |
| H | -4.8758304382 | -1.335625876 | -1.5960873283 | H | -4.9598119223 | -1.185074065 | -1.519240344 |
| H | -5.9729948257 | -2.1756954248 | -0.5006637873 | H | -6.0276752481 | -2.0145307753 | -0.3882352363 |
| H | -4.884044811 | 1.9357597608 | 0.2315418526 | H | -4.8200834219 | 2.0733644105 | 0.2974342361 |
| H | -4.2583446395 | 1.0891912643 | -1.1761842621 | H | -4.2505448406 | 1.198098518 | -1.1165144922 |
| H | -1.8238859608 | -1.560476939 | 2.1089279519 | H | -1.8401705588 | -1.4739448244 | 2.1621625192 |
| H | -1.1432475431 | -2.2238121824 | 0.64309369 | H | -1.1888205166 | -2.1794635261 | 0.6966756753 |
| H | 0.4784545308 | -0.5467992895 | 1.4059596366 | H | 0.4880140731 | -0.538393164 | 1.4146387783 |
| H | -4.2550205103 | 0.0940110817 | 2.5539023734 | H | -4.2080496027 | 0.2278794622 | 2.6154665204 |
| H | -2.5579855341 | 0.5239290497 | 2.7593812148 | H | -2.4975098189 | 0.6153274946 | 2.7940860908 |
| H | -3.7593382301 | 1.7674703009 | 2.4236130561 | H | -3.6718025037 | 1.8860447583 | 2.4656959704 |
| H | -3.5615139598 | -2.8834452833 | 2.2280208558 | H | -3.5520398435 | -2.8971519726 | 2.2001190466 |

| | | | | | | | |
|------------|---------------|---------------|---------------|-------------|---------------|---------------|---------------|
| H | -5.0985551964 | -3.3306652266 | 1.4994811923 | H | -5.1757659402 | -3.1589686969 | 1.5659285684 |
| H | -4.8966583507 | -1.727328033 | 2.1983546752 | H | -4.7616088388 | -1.6198261166 | 2.3216658911 |
| H | -1.3366274791 | 4.6458642718 | 1.625972745 | H | -1.1671245359 | 4.7106885466 | 1.5740455841 |
| H | -1.0625972347 | 3.0640399087 | 2.3432465072 | H | -0.9141929672 | 3.1366744027 | 2.3158341854 |
| H | -2.3710268948 | 3.6082585181 | -0.3675181697 | H | -2.2998405634 | 3.6703930577 | -0.3577499149 |
| H | -3.2261761219 | 3.1492346099 | 1.0897131813 | H | -3.1098336192 | 3.24507981 | 1.1351676692 |
| H | -0.4477158368 | 6.0925488068 | 0.6555961577 | H | -0.2826200292 | 6.1077448505 | 0.5237727724 |
| H | 1.2542386452 | 6.4861139757 | 0.3866782145 | H | 1.421826668 | 6.4533063538 | 0.207534739 |
| H | 0.1816224839 | 6.2488813424 | -0.9878279549 | H | 0.3134090547 | 6.2062088757 | -1.136450531 |
| H | 3.1986352355 | 2.5300199603 | -1.6945726179 | H | 3.2257266024 | 2.396632648 | -1.8069593178 |
| H | 3.1695017428 | 2.6983465175 | 0.0533514925 | H | 3.2411880813 | 2.6206959662 | -0.0651685936 |
| H | 1.6112874752 | 4.3322843623 | -1.9922187192 | H | 1.6642634656 | 4.2200230831 | -2.1243694712 |
| H | 2.7542893736 | 4.8822566973 | -0.7823946539 | H | 2.8508733228 | 4.7852368246 | -0.9642781903 |
| H | -2.9303918021 | -4.9636421637 | -0.5951901454 | H | -3.9271367753 | -4.8094305972 | -1.0646986464 |
| 2-4 | X axis(Å) | Y axis(Å) | Z axis(Å) | 3a-1 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | -4.9377573219 | -1.6839349655 | -1.9603010427 | C | 4.72092 | -2.64626 | 1.32504 |
| C | -4.8978957256 | -0.1735897144 | -1.7324033798 | C | 4.20028 | -1.36423 | 1.98355 |
| C | -3.4692582599 | 0.2013785972 | -1.3258197633 | C | 3.72669 | -0.4197 | 0.86904 |
| C | -2.9780140175 | -0.5544245333 | -0.1050438189 | C | 2.7764 | -1.04978 | -0.13431 |
| C | -3.4306854284 | -1.8867112575 | 0.1461891649 | C | 2.76132 | -2.46133 | -0.35453 |
| C | -4.4139934593 | -2.5082674 | -0.7911548212 | C | 3.68894 | -3.32527 | 0.4357 |
| C | -2.046676112 | 0.0188532143 | 0.7674506419 | C | 1.9198 | -0.24219 | -0.88932 |
| C | -1.6016114846 | -0.7352930438 | 1.8503621035 | C | 1.10694 | -0.84684 | -1.844 |
| C | -2.0212173025 | -2.0222061812 | 2.1280285272 | C | 1.05088 | -2.20742 | -2.07282 |
| C | -2.9520480495 | -2.6223157246 | 1.2727788723 | C | 1.88031 | -3.04337 | -1.31624 |
| C | -5.3700147469 | 0.6093047536 | -2.9620111754 | C | 3.11332 | -1.64844 | 3.0327 |
| O | -4.8066579316 | -3.6650506347 | -0.6684360674 | O | 3.66681 | -4.55149 | 0.37707 |
| C | -3.3883644234 | -4.0283444211 | 1.6130936865 | C | 1.79497 | -4.52626 | -1.59447 |
| C | 3.7467956626 | -3.0547815679 | 0.3864859579 | C | -3.62098 | -2.74217 | -0.38668 |
| O | 3.714255727 | -4.2049913446 | -0.0025521752 | O | -3.11941 | -2.76672 | -1.49376 |
| C | 5.7711787775 | 0.16827879 | -0.345546333 | C | -5.51769 | 0.60557 | -0.21205 |
| C | 5.4177885592 | -1.2048808461 | 0.2365752712 | C | -5.19243 | -0.84435 | -0.58577 |
| C | 4.1655720092 | -1.8321580278 | -0.4463889165 | C | -4.09538 | -1.46458 | 0.33067 |
| C | 2.9762527868 | -0.7967975086 | -0.3980306722 | C | -2.84184 | -0.50815 | 0.35259 |
| C | 3.2841580049 | 0.6711161849 | -0.8444254225 | C | -3.09681 | 1.0164 | 0.58992 |
| C | 4.6023548435 | 1.1464257795 | -0.1797726315 | C | -4.26667 | 1.4858 | -0.31424 |
| C | 1.7044733158 | -1.3059386107 | -1.0918803872 | C | -1.71972 | -1.00473 | 1.27531 |
| C | 0.5854979786 | -0.3053144158 | -1.0013532564 | C | -0.50332 | -0.12955 | 1.1618 |
| C | 0.7266048452 | 0.9653153351 | -0.5901797879 | C | -0.49708 | 1.07858 | 0.57616 |
| C | 2.10749979 | 1.5538008267 | -0.2797435377 | C | -1.78702 | 1.76313 | 0.13116 |
| C | 3.3800395445 | 0.8147612594 | -2.3819852027 | C | -3.4096 | 1.35189 | 2.0677 |
| C | 4.5416120546 | -2.3598099221 | -1.8461137235 | C | -4.69675 | -1.81275 | 1.70823 |
| C | -0.5345092851 | 1.8352358642 | -0.3817534438 | C | 0.84127 | 1.78663 | 0.34677 |

| | | | | | | | |
|---|---------------|---------------|---------------|---|----------|----------|----------|
| C | -0.2128909 | 3.3281597344 | -0.4023977771 | C | 0.77498 | 3.32567 | 0.35321 |
| C | 0.9354414966 | 3.6054713028 | -1.338459279 | C | -0.53984 | 3.96999 | -0.04104 |
| C | 2.2208247981 | 3.0588942967 | -0.6928457831 | C | -1.74005 | 3.2441 | 0.56973 |
| C | -0.8074538066 | 4.2493937857 | 0.3785316155 | C | 2.0697 | 4.02571 | 0.20401 |
| C | -0.4735230606 | 5.722551403 | 0.3868217831 | C | 2.19574 | 5.43304 | -0.33875 |
| C | -1.3880881331 | 1.3915670547 | 0.8616156991 | C | 1.65177 | 1.25646 | -0.93767 |
| C | -2.446912674 | 2.4837635079 | 1.1981092288 | C | 2.92156 | 2.13831 | -1.20066 |
| C | -0.4820668593 | 1.1953818992 | 2.0945185712 | C | 0.71898 | 1.33335 | -2.16118 |
| O | -0.6916033547 | -0.0634913213 | 2.6378023684 | O | 0.36603 | 0.06475 | -2.57184 |
| O | 0.2943857663 | 1.9591128736 | 2.6025773096 | O | 0.30929 | 2.30903 | -2.73466 |
| C | -1.8444803564 | 3.8699855492 | 1.4094830294 | C | 3.26481 | 3.11511 | -0.06111 |
| O | 3.4108990497 | -2.7401568702 | 1.6672482605 | O | 1.45222 | 3.90562 | 1.50655 |
| H | 2.212347738 | 1.5270913101 | 0.813254789 | O | -3.81522 | -3.88803 | 0.31599 |
| H | 2.7339705938 | -0.713475276 | 0.6684129342 | H | -1.8067 | 1.76949 | -0.96958 |
| H | -1.1744759851 | 1.6473122569 | -1.2540724081 | H | -2.45066 | -0.57154 | -0.67095 |
| H | -5.9448650942 | -2.0497766387 | -2.1831917799 | H | 1.48259 | 1.5249 | 1.19071 |
| H | -4.3138261799 | -1.9354841569 | -2.8330161662 | H | 5.05702 | -3.38682 | 2.05639 |
| H | -5.5647536554 | 0.0678864918 | -0.8912769258 | H | 5.58591 | -2.40599 | 0.68812 |
| H | -2.8002240436 | -0.0158882887 | -2.1745250144 | H | 5.03767 | -0.87575 | 2.49821 |
| H | -3.4005617057 | 1.2781045851 | -1.1587573821 | H | 3.26392 | 0.467 | 1.30996 |
| H | -1.6348434223 | -2.5499805728 | 2.9931771887 | H | 4.61028 | -0.0564 | 0.32301 |
| H | -6.3941038568 | 0.3324659537 | -3.2348182509 | H | 0.37827 | -2.6112 | -2.82139 |
| H | -4.7277906908 | 0.4069935542 | -3.8281606464 | H | 2.77638 | -0.72083 | 3.5083 |
| H | -5.3534253734 | 1.6893844177 | -2.776946924 | H | 3.49829 | -2.30708 | 3.81854 |
| H | -2.900908984 | -4.3512103427 | 2.5376227461 | H | 2.23698 | -2.13807 | 2.59371 |
| H | -4.4720374767 | -4.0967310483 | 1.7388342221 | H | 1.07401 | -4.70879 | -2.39635 |
| H | -3.1398351061 | -4.7319754588 | 0.8143926965 | H | 2.76414 | -4.94086 | -1.8841 |
| H | 6.0586185604 | 0.0808647345 | -1.4003339889 | H | 1.49002 | -5.08554 | -0.70612 |
| H | 6.6523614978 | 0.5618178707 | 0.1756851428 | H | -6.28754 | 0.98572 | -0.89443 |
| H | 5.2221654412 | -1.0897043066 | 1.3085066003 | H | -5.95181 | 0.66168 | 0.79377 |
| H | 6.2634572911 | -1.8967852621 | 0.1374462386 | H | -6.09427 | -1.46782 | -0.53894 |
| H | 4.8821701743 | 2.131418515 | -0.571943168 | H | -4.83634 | -0.87101 | -1.62188 |
| H | 4.4219695462 | 1.2817238261 | 0.8962143857 | H | -4.52354 | 2.52584 | -0.08073 |
| H | 1.8941298018 | -1.5579644628 | -2.1441390683 | H | -3.92967 | 1.47466 | -1.36026 |
| H | 1.3720337575 | -2.2447682068 | -0.6273485921 | H | -2.0524 | -1.06115 | 2.32094 |
| H | -0.4046207461 | -0.6780299152 | -1.2542509691 | H | -1.43294 | -2.03013 | 1.00419 |
| H | 4.1480025794 | 0.1687760053 | -2.808035403 | H | 0.42987 | -0.54766 | 1.53284 |
| H | 2.4339947342 | 0.5720813189 | -2.8735462672 | H | -4.24444 | 0.76803 | 2.45568 |
| H | 3.6415231905 | 1.8379168988 | -2.665988211 | H | -2.5495 | 1.17122 | 2.71904 |
| H | 3.6839687644 | -2.7834717238 | -2.3724101968 | H | -3.68411 | 2.40526 | 2.17343 |
| H | 5.2808068788 | -3.1592057965 | -1.7498936713 | H | -3.9548 | -2.22351 | 2.39631 |
| H | 4.9744208885 | -1.5761833871 | -2.467626637 | H | -5.48418 | -2.56245 | 1.59512 |
| H | 1.0509177359 | 4.6679796189 | -1.5612739919 | H | -5.14481 | -0.93638 | 2.17678 |

| | | | | | | | |
|------------|---------------|---------------|---------------|-------------|-----------|-----------|-----------|
| H | 0.7640434715 | 3.0987973297 | -2.2994549263 | H | -0.53312 | 5.01255 | 0.28615 |
| H | 2.4360888879 | 3.6592216946 | 0.1971986121 | H | -0.61774 | 3.96245 | -1.13462 |
| H | 3.0587021772 | 3.2141995636 | -1.3774820902 | H | -1.67844 | 3.31162 | 1.66164 |
| H | 0.3272600187 | 6.0003564167 | -0.2992403196 | H | -2.65989 | 3.75529 | 0.2661 |
| H | -1.3579730418 | 6.3213153644 | 0.1302885528 | H | 1.29787 | 6.02652 | -0.16389 |
| H | -0.1694458652 | 6.0340832393 | 1.3953076008 | H | 3.03806 | 5.93895 | 0.14746 |
| H | -3.0208340733 | 2.1725368253 | 2.078477351 | H | 2.39306 | 5.41081 | -1.41682 |
| H | -3.1547792574 | 2.5244734311 | 0.3647922089 | H | 2.7428 | 2.73037 | -2.10444 |
| H | -1.3835419403 | 3.9400364706 | 2.4046393267 | H | 3.77385 | 1.4875 | -1.41698 |
| H | -2.6581105648 | 4.6085193599 | 1.4042395384 | H | 4.14132 | 3.70445 | -0.35245 |
| H | 3.1773910169 | -3.5749159101 | 2.1067691704 | H | 3.53194 | 2.5878 | 0.85885 |
| | | | | H | -3.49157 | -4.61267 | -0.24666 |
| 3a- | X axis(Å) | Y axis(Å) | Z axis(Å) | 3a-3 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| 2 | | | | | | | |
| C | 4.73822 | -2.66893 | 1.336 | C | 4.87735 | -2.35197 | 1.44246 |
| C | 4.23153 | -1.37333 | 1.97809 | C | 4.22248 | -1.12247 | 2.08035 |
| C | 3.75163 | -0.44513 | 0.85271 | C | 3.71808 | -0.21507 | 0.94858 |
| C | 2.786 | -1.08658 | -0.12846 | C | 2.86096 | -0.91626 | -0.09056 |
| C | 2.75936 | -2.5017 | -0.32333 | C | 2.97771 | -2.32205 | -0.31633 |
| C | 3.69501 | -3.35696 | 0.46647 | C | 3.94868 | -3.10862 | 0.50369 |
| C | 1.9248 | -0.28708 | -0.88688 | C | 1.96391 | -0.18001 | -0.87241 |
| C | 1.09458 | -0.90377 | -1.81854 | C | 1.24085 | -0.84707 | -1.85688 |
| C | 1.02455 | -2.26767 | -2.01971 | C | 1.31852 | -2.20508 | -2.09609 |
| C | 1.8592 | -3.09523 | -1.26011 | C | 2.19072 | -2.97184 | -1.31488 |
| C | 3.15355 | -1.63326 | 3.04277 | C | 3.11962 | -1.50289 | 3.08132 |
| O | 3.67264 | -4.58384 | 0.42231 | O | 4.04148 | -4.33027 | 0.42941 |
| C | 1.75601 | -4.58249 | -1.50612 | C | 2.25075 | -4.45319 | -1.60722 |
| C | -3.72793 | -2.67789 | -0.40787 | C | -3.6479 | -2.9454 | -0.29 |
| O | -2.77448 | -2.82531 | -1.14651 | O | -3.70734 | -4.04844 | 0.21475 |
| C | -5.51557 | 0.70862 | -0.10728 | C | -5.60218 | 0.39694 | -0.13229 |
| C | -5.23396 | -0.74208 | -0.50914 | C | -5.2477 | -1.04236 | -0.52155 |
| C | -4.10594 | -1.39485 | 0.35339 | C | -4.10485 | -1.62928 | 0.36039 |
| C | -2.84438 | -0.46455 | 0.37209 | C | -2.87589 | -0.64037 | 0.34271 |
| C | -3.06971 | 1.06485 | 0.62276 | C | -3.17011 | 0.87418 | 0.60105 |
| C | -4.25146 | 1.56303 | -0.24823 | C | -4.38028 | 1.31339 | -0.26484 |
| C | -1.72086 | -0.97894 | 1.28452 | C | -1.70965 | -1.10933 | 1.22401 |
| C | -0.49266 | -0.12167 | 1.15917 | C | -0.52955 | -0.18689 | 1.10141 |
| C | -0.47221 | 1.08556 | 0.57171 | C | -0.57594 | 1.03031 | 0.53614 |
| C | -1.75701 | 1.78925 | 0.14031 | C | -1.89872 | 1.66577 | 0.11136 |
| C | -3.34535 | 1.40194 | 2.1081 | C | -3.44832 | 1.1878 | 2.09038 |
| C | -4.66417 | -1.78286 | 1.7435 | C | -4.65426 | -1.99476 | 1.75472 |
| C | 0.87527 | 1.77143 | 0.32488 | C | 0.73369 | 1.79915 | 0.31971 |
| C | 0.83256 | 3.31155 | 0.31407 | C | 0.59804 | 3.3346 | 0.31465 |

| | | | | | | | |
|---|----------|----------|----------|---|----------|----------|----------|
| C | -0.47746 | 3.97186 | -0.06899 | C | -0.74104 | 3.91572 | -0.09199 |
| C | -1.67928 | 3.27178 | 0.56769 | C | -1.90533 | 3.15034 | 0.53755 |
| C | 2.13453 | 3.99218 | 0.13955 | C | 1.85935 | 4.09552 | 0.17587 |
| C | 2.27225 | 5.39212 | -0.41965 | C | 1.92472 | 5.5058 | -0.37043 |
| C | 1.66627 | 1.21233 | -0.95967 | C | 1.58875 | 1.29573 | -0.9433 |
| C | 2.93827 | 2.07926 | -1.25675 | C | 2.8069 | 2.24797 | -1.21368 |
| C | 0.71621 | 1.27289 | -2.17064 | C | 0.67066 | 1.29244 | -2.18074 |
| O | 0.34998 | 0.00009 | -2.55346 | O | 0.44667 | -0.00142 | -2.6068 |
| O | 0.30295 | 2.24136 | -2.7544 | O | 0.18028 | 2.22837 | -2.75642 |
| C | 3.31332 | 3.06326 | -0.13372 | C | 3.09866 | 3.24286 | -0.07623 |
| O | 1.53405 | 3.89453 | 1.45169 | O | 1.23585 | 3.95064 | 1.47232 |
| O | -4.63273 | -3.67852 | -0.23327 | O | -3.15944 | -2.78056 | -1.55035 |
| H | -1.79351 | 1.78909 | -0.96015 | H | -1.93828 | 1.66302 | -0.98918 |
| H | -2.45233 | -0.52869 | -0.65045 | H | -2.51345 | -0.67675 | -0.69222 |
| H | 1.51935 | 1.51008 | 1.16687 | H | 1.3705 | 1.5762 | 1.17787 |
| H | 5.07671 | -3.39962 | 2.07617 | H | 5.24054 | -3.06736 | 2.1858 |
| H | 5.599 | -2.44453 | 0.68765 | H | 5.74766 | -2.03676 | 0.84673 |
| H | 5.07679 | -0.88096 | 2.47601 | H | 4.99282 | -0.56748 | 2.63096 |
| H | 3.2986 | 0.45124 | 1.28395 | H | 3.16867 | 0.6291 | 1.37249 |
| H | 4.63129 | -0.09609 | 0.2912 | H | 4.5894 | 0.22049 | 0.43673 |
| H | 0.33357 | -2.6814 | -2.74539 | H | 0.72379 | -2.65878 | -2.88133 |
| H | 2.82738 | -0.69567 | 3.5062 | H | 2.68522 | -0.60949 | 3.54311 |
| H | 3.54247 | -2.28126 | 3.83553 | H | 3.52528 | -2.13018 | 3.88218 |
| H | 2.26967 | -2.12418 | 2.62078 | H | 2.30745 | -2.06311 | 2.60495 |
| H | 1.01519 | -4.77479 | -2.28719 | H | 1.58522 | -4.69083 | -2.44232 |
| H | 2.71522 | -5.01105 | -1.80845 | H | 3.26444 | -4.77697 | -1.85675 |
| H | 1.46533 | -5.12041 | -0.60008 | H | 1.95746 | -5.04742 | -0.73788 |
| H | -6.30577 | 1.11057 | -0.75303 | H | -6.40175 | 0.75867 | -0.79013 |
| H | -5.90682 | 0.75714 | 0.91628 | H | -6.00803 | 0.43617 | 0.88576 |
| H | -6.13965 | -1.35376 | -0.43522 | H | -6.12824 | -1.6923 | -0.44472 |
| H | -4.9262 | -0.75269 | -1.56365 | H | -4.93284 | -1.0524 | -1.571 |
| H | -4.47944 | 2.60769 | -0.00622 | H | -4.66161 | 2.34335 | -0.01627 |
| H | -3.94561 | 1.54683 | -1.30399 | H | -4.07379 | 1.3201 | -1.32054 |
| H | -2.0433 | -1.02761 | 2.33405 | H | -2.01183 | -1.1965 | 2.27653 |
| H | -1.45434 | -2.00519 | 1.00357 | H | -1.39392 | -2.11973 | 0.9298 |
| H | 0.43755 | -0.55428 | 1.52119 | H | 0.42197 | -0.573 | 1.46021 |
| H | -4.18614 | 0.83676 | 2.5116 | H | -4.24566 | 0.56841 | 2.50065 |
| H | -2.47721 | 1.20039 | 2.74198 | H | -2.56067 | 1.03717 | 2.7117 |
| H | -3.59426 | 2.4609 | 2.22176 | H | -3.76043 | 2.22886 | 2.21277 |
| H | -3.91335 | -2.28628 | 2.35884 | H | -3.87364 | -2.3634 | 2.42339 |
| H | -5.51127 | -2.46279 | 1.63416 | H | -5.39368 | -2.79385 | 1.6592 |
| H | -5.00919 | -0.90575 | 2.29119 | H | -5.14109 | -1.14336 | 2.23002 |
| H | -0.44972 | 5.01809 | 0.24499 | H | -0.7788 | 4.96395 | 0.21388 |

| | | | | | | | |
|------------|-----------|-----------|-----------|-------------|-----------|-----------|-----------|
| H | -0.57145 | 3.95185 | -1.16128 | H | -0.81948 | 3.88172 | -1.18509 |
| H | -1.59788 | 3.34652 | 1.65791 | H | -1.83457 | 3.23116 | 1.62798 |
| H | -2.59515 | 3.79665 | 0.27562 | H | -2.84774 | 3.62186 | 0.23975 |
| H | 1.3853 | 6.00003 | -0.2388 | H | 0.99817 | 6.05711 | -0.20802 |
| H | 3.12816 | 5.89105 | 0.0498 | H | 2.73652 | 6.05194 | 0.12407 |
| H | 2.45463 | 5.35617 | -1.5 | H | 2.13603 | 5.49031 | -1.44599 |
| H | 2.74643 | 2.66494 | -2.1621 | H | 2.59167 | 2.82909 | -2.11675 |
| H | 3.7797 | 1.4182 | -1.4844 | H | 3.69276 | 1.64483 | -1.43377 |
| H | 4.19256 | 3.63791 | -0.44552 | H | 3.94753 | 3.87221 | -0.36568 |
| H | 3.58818 | 2.54263 | 0.78762 | H | 3.38534 | 2.73247 | 0.84708 |
| H | -4.34085 | -4.41573 | -0.79588 | H | -2.92109 | -3.66658 | -1.87085 |
| 3a- | X axis(Å) | Y axis(Å) | Z axis(Å) | 3b-1 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| 4 | | | | | | | |
| C | -4.98402 | -2.15825 | -1.58074 | C | 5.05055 | -2.01271 | 1.63142 |
| C | -4.17479 | -1.04803 | -2.25854 | C | 4.19268 | -0.92708 | 2.28861 |
| C | -3.71559 | -0.0691 | -1.16825 | C | 3.71646 | 0.02739 | 1.18396 |
| C | -3.0038 | -0.72097 | 0.00647 | C | 3.03738 | -0.65829 | 0.00941 |
| C | -3.26817 | -2.0811 | 0.35896 | C | 3.3588 | -2.00858 | -0.33288 |
| C | -4.21903 | -2.87477 | -0.47721 | C | 4.33438 | -2.75948 | 0.51527 |
| C | -2.10859 | 0.01457 | 0.79244 | C | 2.11824 | 0.03627 | -0.78648 |
| C | -1.54583 | -0.59974 | 1.90762 | C | 1.58795 | -0.60637 | -1.90136 |
| C | -1.77402 | -1.91074 | 2.27608 | C | 1.8742 | -1.90841 | -2.26172 |
| C | -2.63891 | -2.68176 | 1.49155 | C | 2.76454 | -2.63977 | -1.46748 |
| C | -3.01411 | -1.6027 | -3.09963 | C | 3.03929 | -1.51553 | 3.11662 |
| O | -4.42245 | -4.0718 | -0.29435 | O | 4.59599 | -3.94468 | 0.33086 |
| C | -2.86019 | -4.11307 | 1.92302 | C | 3.04945 | -4.0621 | -1.89139 |
| C | 3.51065 | -3.1781 | 0.40274 | C | -3.53683 | -3.29595 | -0.28881 |
| O | 3.01477 | -3.21838 | 1.51171 | O | -3.58591 | -4.38148 | 0.2533 |
| C | 5.57831 | 0.06853 | 0.3254 | C | -5.61036 | -0.0247 | -0.27659 |
| C | 5.17497 | -1.37179 | 0.65521 | C | -5.19436 | -1.46076 | -0.61207 |
| C | 4.03921 | -1.89921 | -0.27175 | C | -4.03991 | -1.96928 | 0.30253 |
| C | 2.83876 | -0.87816 | -0.24131 | C | -2.84975 | -0.93723 | 0.24999 |
| C | 3.1754 | 0.63755 | -0.44414 | C | -3.2034 | 0.57369 | 0.46418 |
| C | 4.37994 | 1.01575 | 0.4577 | C | -4.42531 | 0.93781 | -0.42057 |
| C | 1.6723 | -1.30231 | -1.14644 | C | -1.66173 | -1.34988 | 1.13183 |
| C | 0.54038 | -0.31552 | -1.10507 | C | -0.54585 | -0.34542 | 1.08187 |
| C | 0.60669 | 0.89837 | -0.53704 | C | -0.6375 | 0.87187 | 0.52431 |
| C | 1.91142 | 1.42811 | 0.06561 | C | -1.95801 | 1.38404 | -0.06025 |
| C | 3.48209 | 1.00535 | -1.9139 | C | -3.49404 | 0.93174 | 1.93927 |
| C | 4.60538 | -2.21933 | -1.67062 | C | -4.58426 | -2.29011 | 1.70934 |
| C | -0.65983 | 1.76177 | -0.49036 | C | 0.61524 | 1.75699 | 0.47508 |
| C | -0.37612 | 3.26765 | -0.68818 | C | 0.30689 | 3.25851 | 0.66792 |
| C | 1.04021 | 3.52234 | -1.16082 | C | -1.10643 | 3.48876 | 1.16063 |

| | | | | | | | |
|---|----------|----------|----------|---|----------|----------|----------|
| C | 2.01799 | 2.97416 | -0.11149 | C | -2.08738 | 2.9275 | 0.12172 |
| C | -1.17359 | 4.32238 | -0.00963 | C | 1.07233 | 4.32524 | -0.02844 |
| C | -0.65084 | 5.72855 | 0.21175 | C | 0.51868 | 5.71954 | -0.24938 |
| C | -1.59372 | 1.44965 | 0.7498 | C | 1.55518 | 1.45371 | -0.76179 |
| C | -2.74377 | 2.4901 | 0.82357 | C | 2.67594 | 2.52466 | -0.85969 |
| C | -0.74777 | 1.49189 | 2.03754 | C | 0.70678 | 1.45092 | -2.04841 |
| O | -0.73508 | 0.24787 | 2.63736 | O | 0.74782 | 0.20294 | -2.64109 |
| O | -0.14209 | 2.41373 | 2.5206 | O | 0.06246 | 2.34243 | -2.53779 |
| C | -2.26392 | 3.93374 | 0.97066 | C | 2.15554 | 3.95201 | -1.02225 |
| O | -1.43568 | 3.96293 | -1.39113 | O | 1.36315 | 3.97832 | 1.35057 |
| O | 3.65097 | -4.30588 | -0.3407 | O | -3.02106 | -3.16339 | -1.54204 |
| H | 1.87403 | 1.23986 | 1.14661 | H | -1.93104 | 1.19966 | -1.14224 |
| H | 2.46979 | -0.94532 | 0.79006 | H | -2.4949 | -0.98725 | -0.78675 |
| H | -1.25594 | 1.48539 | -1.36515 | H | 1.21338 | 1.49469 | 1.35274 |
| H | -5.32544 | -2.92108 | -2.28643 | H | 5.40359 | -2.76106 | 2.34685 |
| H | -5.88277 | -1.72432 | -1.1164 | H | 5.9438 | -1.55164 | 1.1828 |
| H | -4.84152 | -0.49855 | -2.93544 | H | 4.82961 | -0.34966 | 2.97086 |
| H | -3.08527 | 0.70696 | -1.60952 | H | 3.05914 | 0.78898 | 1.61042 |
| H | -4.60274 | 0.45228 | -0.77912 | H | 4.59195 | 0.57071 | 0.79834 |
| H | -1.29102 | -2.32666 | 3.15336 | H | 1.42111 | -2.34609 | -3.14452 |
| H | -2.46717 | -0.79213 | -3.5938 | H | 2.45671 | -0.72088 | 3.59566 |
| H | -3.38876 | -2.27625 | -3.87785 | H | 3.4253 | -2.16911 | 3.90616 |
| H | -2.30004 | -2.16846 | -2.49095 | H | 2.35478 | -2.11118 | 2.50256 |
| H | -2.2984 | -4.31144 | 2.84025 | H | 2.5031 | -4.28788 | -2.81189 |
| H | -3.91799 | -4.32506 | 2.09895 | H | 4.11629 | -4.22934 | -2.06017 |
| H | -2.54286 | -4.81947 | 1.15155 | H | 2.7581 | -4.7787 | -1.11905 |
| H | 6.36921 | 0.38519 | 1.01613 | H | -6.41287 | 0.284 | -0.9575 |
| H | 6.01424 | 0.12995 | -0.67926 | H | -6.0349 | 0.02959 | 0.73301 |
| H | 6.04037 | -2.04242 | 0.5813 | H | -6.04943 | -2.14218 | -0.52254 |
| H | 4.82379 | -1.41313 | 1.69255 | H | -4.86531 | -1.49494 | -1.65681 |
| H | 4.69799 | 2.04326 | 0.24599 | H | -4.75449 | 1.96026 | -0.20175 |
| H | 4.05002 | 1.00345 | 1.50613 | H | -4.1085 | 0.93389 | -1.47332 |
| H | 1.99835 | -1.43745 | -2.18718 | H | -1.96926 | -1.49844 | 2.17607 |
| H | 1.29348 | -2.28456 | -0.83107 | H | -1.27416 | -2.32525 | 0.80588 |
| H | -0.39399 | -0.63932 | -1.55964 | H | 0.39806 | -0.65731 | 1.52492 |
| H | 4.38409 | 0.51448 | -2.28199 | H | -4.38405 | 0.42791 | 2.31808 |
| H | 2.66191 | 0.73852 | -2.58563 | H | -2.66106 | 0.67222 | 2.59798 |
| H | 3.64987 | 2.08177 | -2.01464 | H | -3.67354 | 2.00563 | 2.04678 |
| H | 3.84251 | -2.59894 | -2.35351 | H | -3.80204 | -2.64557 | 2.38312 |
| H | 5.38142 | -2.98567 | -1.59515 | H | -5.32965 | -3.08666 | 1.64188 |
| H | 5.05665 | -1.33746 | -2.12528 | H | -5.05973 | -1.42127 | 2.16348 |
| H | 1.18794 | 3.0223 | -2.12703 | H | -1.23369 | 2.98359 | 2.12704 |
| H | 1.20754 | 4.58756 | -1.32799 | H | -1.28869 | 4.55061 | 1.33332 |

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|-------------|-----------|-----------|-----------|-------------|-----------|-----------|-----------|
| H | 3.03815 | 3.26344 | -0.37617 | H | -3.10889 | 3.19973 | 0.3987 |
| H | 1.80396 | 3.45854 | 0.84698 | H | -1.89228 | 3.41758 | -0.83799 |
| H | 0.00409 | 6.0582 | -0.5951 | H | -0.13486 | 6.03906 | 0.5626 |
| H | -1.49313 | 6.42821 | 0.26266 | H | 1.34596 | 6.43598 | -0.31138 |
| H | -0.10595 | 5.78983 | 1.16026 | H | -0.03685 | 5.76624 | -1.19257 |
| H | -3.41025 | 2.23327 | 1.65463 | H | 3.34223 | 2.27399 | -1.69278 |
| H | -3.32931 | 2.39919 | -0.09437 | H | 3.27111 | 2.46266 | 0.05441 |
| H | -1.88416 | 4.10955 | 1.98197 | H | 1.75453 | 4.10193 | -2.02962 |
| H | -3.11777 | 4.60906 | 0.82677 | H | 2.99336 | 4.65175 | -0.9032 |
| H | 3.299 | -5.03514 | 0.19858 | H | -2.75393 | -4.05361 | -1.82645 |
| 3b-2 | X axis(Å) | Y axis(Å) | Z axis(Å) | 3b-3 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | -4.21713 | -2.90125 | -1.60021 | C | 4.97885 | -2.21293 | 1.59248 |
| C | -4.71063 | -1.49676 | -1.2553 | C | 4.19086 | -1.07886 | 2.25522 |
| C | -3.48464 | -0.62234 | -0.97312 | C | 3.7409 | -0.11232 | 1.15015 |
| C | -2.58041 | -1.18795 | 0.10418 | C | 3.00729 | -0.77445 | -0.00516 |
| C | -2.48527 | -2.59858 | 0.30937 | C | 3.24864 | -2.14432 | -0.33589 |
| C | -3.2925 | -3.51118 | -0.55448 | C | 4.2006 | -2.93506 | 0.50148 |
| C | -1.80729 | -0.33625 | 0.89838 | C | 2.11347 | -0.04064 | -0.79409 |
| C | -0.98647 | -0.90153 | 1.87028 | C | 1.52781 | -0.66731 | -1.89037 |
| C | -0.86802 | -2.25787 | 2.10054 | C | 1.7314 | -1.98829 | -2.23611 |
| C | -1.62233 | -3.13525 | 1.31313 | C | 2.59537 | -2.75696 | -1.44838 |
| C | -5.59608 | -0.9074 | -2.35824 | C | 3.02618 | -1.60043 | 3.11185 |
| O | -3.22683 | -4.73452 | -0.47121 | O | 4.39666 | -4.13495 | 0.32917 |
| C | -1.46782 | -4.61186 | 1.59367 | C | 2.78775 | -4.19992 | -1.85367 |
| C | 3.75281 | -2.65797 | 0.24965 | C | -3.61752 | -3.10655 | -0.41176 |
| O | 3.28387 | -2.72324 | 1.36928 | O | -2.70481 | -3.21592 | -1.20619 |
| C | 5.54863 | 0.74829 | 0.13504 | C | -5.57645 | 0.19012 | -0.24603 |
| C | 5.2706 | -0.71879 | 0.4783 | C | -5.21351 | -1.25592 | -0.59501 |
| C | 4.18503 | -1.35185 | -0.44242 | C | -4.05684 | -1.8131 | 0.29549 |
| C | 2.90262 | -0.43337 | -0.43331 | C | -2.84488 | -0.81949 | 0.26566 |
| C | 3.1097 | 1.10285 | -0.63806 | C | -3.15116 | 0.70427 | 0.47362 |
| C | 4.2724 | 1.58741 | 0.26726 | C | -4.36119 | 1.10981 | -0.4073 |
| C | 1.788 | -0.94253 | -1.35837 | C | -1.6838 | -1.26099 | 1.17027 |
| C | 0.54677 | -0.10768 | -1.21361 | C | -0.53311 | -0.29671 | 1.11484 |
| C | 0.5087 | 1.08549 | -0.5993 | C | -0.57882 | 0.91502 | 0.54002 |
| C | 1.78193 | 1.80004 | -0.15319 | C | -1.87864 | 1.46951 | -0.05157 |
| C | 3.40028 | 1.47932 | -2.11048 | C | -3.43208 | 1.08086 | 1.94694 |
| C | 4.7846 | -1.65215 | -1.83208 | C | -4.59189 | -2.15748 | 1.70506 |
| C | -0.84756 | 1.74595 | -0.33639 | C | 0.7058 | 1.75028 | 0.47274 |
| C | -0.8278 | 3.2864 | -0.3203 | C | 0.45632 | 3.2637 | 0.65578 |
| C | 0.47068 | 3.96525 | 0.07044 | C | -0.94591 | 3.55213 | 1.1504 |
| C | 1.68594 | 3.28664 | -0.56417 | C | -1.95242 | 3.01815 | 0.12122 |

| | | | | | | | |
|---|----------|----------|----------|---|----------|----------|----------|
| C | -2.14159 | 3.94251 | -0.14454 | C | 1.2614 | 4.29399 | -0.05069 |
| C | -2.30719 | 5.33429 | 0.42638 | C | 0.762 | 5.7071 | -0.28149 |
| C | -1.61708 | 1.17413 | 0.9532 | C | 1.62061 | 1.40251 | -0.77215 |
| C | -2.92821 | 1.99571 | 1.2256 | C | 2.78574 | 2.423 | -0.88069 |
| C | -0.69465 | 1.29497 | 2.18177 | C | 0.75964 | 1.43341 | -2.05017 |
| O | -0.30439 | 0.0439 | 2.6118 | O | 0.72089 | 0.17919 | -2.62627 |
| O | -0.32626 | 2.28942 | 2.75105 | O | 0.1621 | 2.35555 | -2.54326 |
| C | -3.30463 | 2.98835 | 0.10906 | C | 2.32668 | 3.87148 | -1.04441 |
| O | -1.53458 | 3.86556 | -1.45555 | O | 1.54153 | 3.94738 | 1.33058 |
| O | 3.9416 | -3.7787 | -0.49372 | O | -4.4157 | -4.16772 | -0.11772 |
| H | 1.81204 | 1.7867 | 0.94741 | H | -1.85643 | 1.27774 | -1.1323 |
| H | 2.52234 | -0.53124 | 0.59172 | H | -2.46897 | -0.89169 | -0.76225 |
| H | -1.49952 | 1.47331 | -1.16937 | H | 1.30344 | 1.47099 | 1.34559 |
| H | -3.65291 | -2.86561 | -2.5461 | H | 5.31012 | -2.97025 | 2.30894 |
| H | -5.03735 | -3.60927 | -1.75382 | H | 5.88354 | -1.80172 | 1.11904 |
| H | -5.30407 | -1.55719 | -0.33073 | H | 4.86979 | -0.52807 | 2.91887 |
| H | -2.91213 | -0.51586 | -1.90903 | H | 3.12838 | 0.68338 | 1.58132 |
| H | -3.80221 | 0.38532 | -0.69926 | H | 4.63428 | 0.38511 | 0.74419 |
| H | -0.19989 | -2.62762 | 2.87034 | H | 1.22827 | -2.41475 | -3.09675 |
| H | -5.95669 | 0.09169 | -2.08849 | H | 2.49415 | -0.77279 | 3.59391 |
| H | -6.4711 | -1.54076 | -2.5399 | H | 3.39463 | -2.26549 | 3.9003 |
| H | -5.04434 | -0.82118 | -3.30248 | H | 2.3005 | -2.16594 | 2.51688 |
| H | -0.76661 | -4.75751 | 2.42018 | H | 2.20376 | -4.40942 | -2.75438 |
| H | -2.42354 | -5.07706 | 1.84926 | H | 3.83862 | -4.43059 | -2.04682 |
| H | -1.10363 | -5.15286 | 0.71641 | H | 2.47629 | -4.88502 | -1.06095 |
| H | 6.31238 | 1.13633 | 0.81983 | H | -6.38142 | 0.52675 | -0.91064 |
| H | 5.97227 | 0.84053 | -0.8726 | H | -5.98006 | 0.25078 | 0.77202 |
| H | 6.19045 | -1.31332 | 0.4099 | H | -6.08551 | -1.91275 | -0.50225 |
| H | 4.92495 | -0.77988 | 1.51639 | H | -4.89752 | -1.28836 | -1.64641 |
| H | 4.49527 | 2.63989 | 0.05555 | H | -4.65143 | 2.14487 | -0.19268 |
| H | 3.94497 | 1.54223 | 1.3154 | H | -4.05265 | 1.0873 | -1.46226 |
| H | 2.11331 | -0.96447 | -2.40756 | H | -2.00771 | -1.37827 | 2.2142 |
| H | 1.53465 | -1.98219 | -1.10935 | H | -1.32886 | -2.25037 | 0.85539 |
| H | -0.37657 | -0.54739 | -1.58505 | H | 0.39908 | -0.63727 | 1.56177 |
| H | 4.24772 | 0.92764 | -2.51762 | H | -4.34376 | 0.61585 | 2.32566 |
| H | 2.54009 | 1.2887 | -2.75886 | H | -2.61256 | 0.79348 | 2.61056 |
| H | 3.64412 | 2.54207 | -2.19505 | H | -3.57041 | 2.16148 | 2.04793 |
| H | 4.04835 | -2.06479 | -2.52505 | H | -3.83165 | -2.64272 | 2.32324 |
| H | 5.59105 | -2.38467 | -1.74191 | H | -5.43964 | -2.84174 | 1.63194 |
| H | 5.20808 | -0.75416 | -2.28239 | H | -4.92614 | -1.26354 | 2.23135 |
| H | 0.56068 | 3.94464 | 1.16271 | H | -1.08822 | 3.06143 | 2.12224 |
| H | 0.42778 | 5.01167 | -0.24136 | H | -1.08745 | 4.6218 | 1.31319 |
| H | 1.6115 | 3.37111 | -1.65405 | H | -2.96183 | 3.32864 | 0.40278 |

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|------------------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
| H | 2.593 | 3.81996 | -0.26016 | H | -1.74619 | 3.49457 | -0.84303 |
| H | -1.42949 | 5.95859 | 0.25641 | H | 0.12464 | 6.05863 | 0.53017 |
| H | -3.16875 | 5.82309 | -0.04335 | H | 1.61649 | 6.39005 | -0.35244 |
| H | -2.49449 | 5.28483 | 1.50532 | H | 0.20513 | 5.76759 | -1.22308 |
| H | -2.78262 | 2.57173 | 2.14535 | H | 3.43494 | 2.14162 | -1.71747 |
| H | -3.75325 | 1.30362 | 1.41963 | H | 3.38411 | 2.33791 | 0.02946 |
| H | -4.19859 | 3.54224 | 0.41662 | H | 1.93092 | 4.03621 | -2.05147 |
| H | -3.55572 | 2.47651 | -0.82449 | H | 3.19378 | 4.53511 | -0.92781 |
| H | 3.6429 | -4.52491 | 0.05437 | H | -4.09641 | -4.91048 | -0.65794 |
| 3b- 4 | X axis(Å) | Y axis(Å) | Z axis(Å) | 4-1 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | -4.2333 | -2.90902 | -1.62998 | C | -5.58501 | -1.87276 | -0.64727 |
| C | -4.73328 | -1.51367 | -1.25847 | C | -4.59246 | -3.01106 | -0.90104 |
| C | -3.5113 | -0.63714 | -0.96637 | C | -3.42741 | -3.03139 | 0.13994 |
| C | -2.59447 | -1.21738 | 0.09242 | C | -2.77092 | -1.61074 | 0.22936 |
| C | -2.49144 | -2.6308 | 0.2734 | C | -3.72739 | -0.37321 | 0.33235 |
| C | -3.30647 | -3.53255 | -0.5943 | C | -4.87611 | -0.51539 | -0.69878 |
| C | -1.81591 | -0.37561 | 0.89207 | C | -1.67376 | -1.51595 | 1.30112 |
| C | -0.98159 | -0.95367 | 1.84463 | C | -1.04082 | -0.1521 | 1.32245 |
| C | -0.85363 | -2.31276 | 2.04972 | C | -1.5167 | 0.92091 | 0.67076 |
| C | -1.61317 | -3.18022 | 1.25685 | C | -2.85744 | 0.87733 | -0.0682 |
| C | -5.62709 | -0.91004 | -2.34687 | C | -0.68504 | 2.21102 | 0.65085 |
| O | -3.24656 | -4.75691 | -0.52201 | C | -1.55017 | 3.47011 | 0.57795 |
| C | -1.44449 | -4.66051 | 1.50714 | C | -2.95512 | 3.20351 | 1.05856 |
| C | 3.85554 | -2.5987 | 0.27723 | C | -3.62014 | 2.23635 | 0.06038 |
| O | 2.92135 | -2.78205 | 1.03224 | C | -4.31867 | -0.1851 | 1.74998 |
| C | 5.54501 | 0.84179 | 0.03472 | C | -2.38823 | -3.99343 | -0.45988 |
| C | 5.30797 | -0.62479 | 0.40666 | O | -1.38171 | -3.6858 | -1.06762 |
| C | 4.191 | -1.29033 | -0.46066 | O | -2.73276 | -5.30116 | -0.30612 |
| C | 2.90376 | -0.39556 | -0.44805 | C | 5.60554 | -0.40943 | 1.47605 |
| C | 3.08373 | 1.14429 | -0.66711 | C | 4.20824 | -0.36305 | 2.13765 |
| C | 4.2586 | 1.65675 | 0.20492 | C | 3.20219 | -0.3819 | 0.9453 |
| C | 1.7869 | -0.92169 | -1.36193 | C | 4.03963 | -0.5653 | -0.35153 |
| C | 0.5363 | -0.10239 | -1.20699 | C | 5.3825 | -1.13006 | 0.13763 |
| C | 0.48652 | 1.09056 | -0.59279 | C | 2.27888 | 0.84397 | 0.89883 |
| C | 1.75541 | 1.82162 | -0.15928 | C | 1.46634 | 1.07226 | -0.29193 |
| C | 3.33724 | 1.52042 | -2.14705 | C | 1.41566 | 0.29436 | -1.41528 |
| C | 4.74745 | -1.63226 | -1.86331 | C | 2.10724 | -0.88457 | -1.88309 |
| C | -0.87684 | 1.73227 | -0.31629 | C | 3.3083 | -1.32317 | -1.44132 |
| C | -0.87606 | 3.27289 | -0.28247 | C | 0.46435 | 2.20694 | -0.43673 |
| C | 0.41795 | 3.96399 | 0.10086 | O | 0.4741 | 0.7546 | -2.31792 |
| C | 1.63278 | 3.3091 | -0.55832 | C | 3.96937 | -1.52003 | 3.11932 |
| C | -2.19481 | 3.91296 | -0.08554 | C | 3.93857 | -2.54151 | -2.05711 |

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|---|----------|----------|----------|---|----------|----------|----------|
| C | -2.3693 | 5.29671 | 0.50227 | C | 1.17146 | 3.58984 | -0.38761 |
| C | -1.63163 | 1.13462 | 0.97064 | O | 6.37593 | -0.89139 | -0.85254 |
| C | -2.94352 | 1.94405 | 1.27188 | C | 7.62819 | -1.50297 | -0.58394 |
| C | -0.69486 | 1.2386 | 2.18973 | O | 2.18476 | 1.58958 | 1.87773 |
| O | -0.29492 | -0.01713 | 2.59441 | C | -0.10554 | 1.92233 | -1.82517 |
| O | -0.32209 | 2.22568 | 2.7696 | O | -0.9086 | 2.52244 | -2.48814 |
| C | -3.34468 | 2.94423 | 0.17102 | C | 0.22503 | 4.76895 | -0.6102 |
| O | -1.60168 | 3.85677 | -1.40376 | C | -1.12625 | 4.63539 | 0.0534 |
| O | 4.7762 | -3.57626 | 0.06076 | C | -1.94925 | 5.89923 | -0.03494 |
| H | 1.80202 | 1.80184 | 0.94081 | H | 4.27271 | 0.43413 | -0.75617 |
| H | 2.52325 | -0.49305 | 0.57618 | C | -3.9303 | -3.61236 | 1.48324 |
| H | -1.52998 | 1.46187 | -1.14916 | H | -2.26096 | -1.49262 | -0.73467 |
| H | -3.6689 | -2.85249 | -2.57477 | H | -2.63433 | 0.74582 | -1.13608 |
| H | -5.05015 | -3.61796 | -1.79655 | H | -0.13397 | 2.23972 | 1.59855 |
| H | -5.32231 | -1.59397 | -0.33256 | H | 2.5264 | -1.24506 | 1.04913 |
| H | -2.94614 | -0.50715 | -1.90382 | H | -6.37061 | -1.90728 | -1.41203 |
| H | -3.83438 | 0.36216 | -0.66961 | H | -6.09302 | -2.01247 | 0.31483 |
| H | -0.17042 | -2.693 | 2.8006 | H | -5.09767 | -3.98304 | -0.89223 |
| H | -5.99163 | 0.08233 | -2.05817 | H | -4.16812 | -2.87989 | -1.90591 |
| H | -6.49963 | -1.54483 | -2.53543 | H | -5.60521 | 0.29132 | -0.5591 |
| H | -5.08026 | -0.80448 | -3.29202 | H | -4.46122 | -0.38526 | -1.7086 |
| H | -0.72571 | -4.81631 | 2.31641 | H | -2.06398 | -1.75941 | 2.29952 |
| H | -2.39217 | -5.13663 | 1.77232 | H | -0.89544 | -2.26178 | 1.09519 |
| H | -1.09244 | -5.18208 | 0.61338 | H | -0.11892 | -0.05693 | 1.89325 |
| H | 6.32916 | 1.25175 | 0.6828 | H | -3.54784 | 4.11639 | 1.1396 |
| H | 5.92584 | 0.92389 | -0.99063 | H | -2.93629 | 2.74632 | 2.05831 |
| H | 6.22994 | -1.20867 | 0.31149 | H | -3.6486 | 2.72769 | -0.91751 |
| H | 5.01013 | -0.66728 | 1.46317 | H | -4.66141 | 2.0714 | 0.35149 |
| H | 4.45487 | 2.71249 | -0.01581 | H | -3.54009 | -0.04631 | 2.50427 |
| H | 3.96271 | 1.60888 | 1.26256 | H | -4.96706 | 0.69478 | 1.78684 |
| H | 2.10117 | -0.93867 | -2.41491 | H | -4.93168 | -1.03373 | 2.05782 |
| H | 1.55179 | -1.96096 | -1.10121 | H | -2.05359 | -5.82058 | -0.76867 |
| H | -0.38429 | -0.55497 | -1.56981 | H | 5.96718 | 0.60354 | 1.25917 |
| H | 4.18915 | 0.98674 | -2.56948 | H | 6.3495 | -0.89904 | 2.1126 |
| H | 2.46928 | 1.30916 | -2.77801 | H | 4.0763 | 0.574 | 2.68435 |
| H | 3.55668 | 2.58783 | -2.23982 | H | 5.30501 | -2.21691 | 0.30965 |
| H | 4.00544 | -2.14258 | -2.48363 | H | 1.60917 | -1.40204 | -2.69803 |
| H | 5.61356 | -2.29106 | -1.77588 | H | 2.95708 | -1.47401 | 3.53593 |
| H | 5.06405 | -0.73437 | -2.3942 | H | 4.67537 | -1.47362 | 3.95604 |
| H | 0.35723 | 5.01373 | -0.19639 | H | 4.08775 | -2.49858 | 2.63679 |
| H | 0.52246 | 3.92984 | 1.19161 | H | 3.32292 | -2.93796 | -2.86784 |
| H | 1.5395 | 3.4011 | -1.64623 | H | 4.93593 | -2.3044 | -2.44244 |
| H | 2.53649 | 3.85374 | -0.26454 | H | 4.06894 | -3.33672 | -1.3116 |

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|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
| H | -1.50043 | 5.93262 | 0.33009 | H | 1.98365 | 3.61215 | -1.12379 |
| H | -3.24111 | 5.78097 | 0.04694 | H | 1.63331 | 3.65428 | 0.60152 |
| H | -2.5448 | 5.23351 | 1.58249 | H | 8.26709 | -1.3088 | -1.44817 |
| H | -2.78707 | 2.51279 | 2.19445 | H | 8.10595 | -1.08452 | 0.31218 |
| H | -3.76026 | 1.24407 | 1.47272 | H | 7.52168 | -2.59105 | -0.45338 |
| H | -4.24059 | 3.48532 | 0.49534 | H | 0.72163 | 5.68498 | -0.25973 |
| H | -3.6014 | 2.44017 | -0.76512 | H | 0.05142 | 4.91962 | -1.68579 |
| H | 4.51121 | -4.33176 | 0.61235 | H | -2.93419 | 5.82165 | 0.42672 |
| | | | | H | -1.42202 | 6.73401 | 0.44621 |
| | | | | H | -2.09454 | 6.18684 | -1.0855 |
| | | | | H | -4.69067 | -2.97264 | 1.93095 |
| | | | | H | -4.37014 | -4.59964 | 1.32791 |
| | | | | H | -3.11964 | -3.72257 | 2.20879 |
| 4-2 | X axis(Å) | Y axis(Å) | Z axis(Å) | 4-3 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | -5.67877 | -1.82436 | -0.62458 | C | -5.58521 | -1.87248 | -0.64689 |
| C | -4.7105 | -2.9778 | -0.90867 | C | -4.59268 | -3.01079 | -0.90076 |
| C | -3.54341 | -3.03655 | 0.12197 | C | -3.42756 | -3.03115 | 0.14014 |
| C | -2.84418 | -1.62415 | 0.19417 | C | -2.77103 | -1.61054 | 0.22955 |
| C | -3.77112 | -0.37184 | 0.34729 | C | -3.72747 | -0.373 | 0.33262 |
| C | -4.94687 | -0.4776 | -0.65906 | C | -4.87628 | -0.51512 | -0.69842 |
| C | -1.70092 | -1.57101 | 1.21811 | C | -1.67382 | -1.51579 | 1.30126 |
| C | -1.04773 | -0.21736 | 1.25308 | C | -1.04083 | -0.15195 | 1.32253 |
| C | -1.52866 | 0.88035 | 0.64758 | C | -1.51672 | 0.92105 | 0.67082 |
| C | -2.88998 | 0.87116 | -0.05575 | C | -2.85753 | 0.87752 | -0.06799 |
| C | -0.68216 | 2.16343 | 0.6522 | C | -0.68495 | 2.21109 | 0.65068 |
| C | -1.53424 | 3.43249 | 0.60478 | C | -1.54996 | 3.47023 | 0.57754 |
| C | -2.93028 | 3.17603 | 1.11487 | C | -2.95485 | 3.20387 | 1.05845 |
| C | -3.63156 | 2.23677 | 0.11589 | C | -3.6202 | 2.23658 | 0.06063 |
| C | -4.31619 | -0.20204 | 1.78467 | C | -4.31862 | -0.18491 | 1.75031 |
| C | -2.50686 | -4.039 | -0.40865 | C | -2.38848 | -3.99324 | -0.4598 |
| O | -2.15596 | -5.06337 | 0.1423 | O | -1.38186 | -3.68565 | -1.06739 |
| O | -1.98861 | -3.6871 | -1.61838 | O | -2.73324 | -5.30094 | -0.30633 |
| C | 5.60262 | -0.43436 | 1.53863 | C | 5.60628 | -0.40857 | 1.47518 |
| C | 4.18628 | -0.43368 | 2.1597 | C | 4.20929 | -0.36173 | 2.13742 |
| C | 3.21608 | -0.4195 | 0.93829 | C | 3.20264 | -0.38159 | 0.94556 |
| C | 4.09342 | -0.54718 | -0.33907 | C | 4.03948 | -0.56565 | -0.35152 |
| C | 5.4303 | -1.11003 | 0.16973 | C | 5.3826 | -1.13006 | 0.13733 |
| C | 2.28432 | 0.8005 | 0.90401 | C | 2.27894 | 0.84398 | 0.8989 |
| C | 1.48188 | 1.04012 | -0.29232 | C | 1.46632 | 1.07197 | -0.29186 |
| C | 1.46943 | 0.29346 | -1.43709 | C | 1.41546 | 0.29371 | -1.41495 |
| C | 2.20556 | -0.84805 | -1.93094 | C | 2.10662 | -0.88565 | -1.88228 |
| C | 3.4075 | -1.27431 | -1.47804 | C | 3.3077 | -1.32421 | -1.44054 |
| C | 0.46815 | 2.16555 | -0.43074 | C | 0.46442 | 2.20668 | -0.43693 |

| | | | | | | | |
|---|-----------|----------|----------|---|----------|----------|----------|
| O | 0.52976 | 0.75295 | -2.34213 | O | 0.47389 | 0.75382 | -2.31768 |
| C | 3.93612 | -1.63211 | 3.08743 | C | 3.97097 | -1.51792 | 3.12014 |
| C | 4.08908 | -2.44237 | -2.13545 | C | 3.93749 | -2.5432 | -2.05552 |
| C | 1.17652 | 3.5495 | -0.37824 | C | 1.17161 | 3.58956 | -0.38817 |
| O | 6.44768 | -0.82192 | -0.78193 | O | 6.37553 | -0.89201 | -0.85349 |
| C | 7.70268 | -1.42103 | -0.49618 | C | 7.62794 | -1.50337 | -0.58511 |
| O | 2.17355 | 1.53024 | 1.8923 | O | 2.18468 | 1.58968 | 1.87772 |
| C | -0.09314 | 1.88847 | -1.82432 | C | -0.10552 | 1.92174 | -1.82528 |
| O | -0.91712 | 2.47248 | -2.4751 | O | -0.90852 | 2.5218 | -2.48839 |
| C | 0.23057 | 4.72776 | -0.60102 | C | 0.22522 | 4.76864 | -0.61108 |
| C | -1.11141 | 4.59865 | 0.08145 | C | -1.12602 | 4.63534 | 0.05264 |
| C | -1.92592 | 5.86943 | 0.01795 | C | -1.949 | 5.89917 | -0.03601 |
| H | 4.32428 | 0.46856 | -0.70284 | H | 4.2723 | 0.43358 | -0.75679 |
| C | -4.05518 | -3.59903 | 1.46375 | C | -3.93038 | -3.61214 | 1.48347 |
| H | -2.38157 | -1.50075 | -0.79287 | H | -2.26112 | -1.4924 | -0.7345 |
| H | -2.69575 | 0.75613 | -1.13116 | H | -2.63452 | 0.74603 | -1.1359 |
| H | -0.13523 | 2.16954 | 1.60282 | H | -0.13385 | 2.23992 | 1.59837 |
| H | 2.54684 | -1.2922 | 0.9911 | H | 2.52711 | -1.24485 | 1.05035 |
| H | -6.47119 | -1.82774 | -1.383 | H | -6.37086 | -1.90699 | -1.4116 |
| H | -6.18276 | -1.96915 | 0.3386 | H | -6.09315 | -2.01221 | 0.31523 |
| H | -5.24044 | -3.93857 | -0.90477 | H | -5.0979 | -3.98277 | -0.89192 |
| H | -4.29521 | -2.84513 | -1.91393 | H | -4.16844 | -2.87963 | -1.90567 |
| H | -5.66001 | 0.3367 | -0.48536 | H | -5.60534 | 0.29161 | -0.55868 |
| H | -4.55214 | -0.33068 | -1.67461 | H | -4.46147 | -0.38499 | -1.70827 |
| H | -2.05111 | -1.83941 | 2.22425 | H | -2.06399 | -1.75923 | 2.29968 |
| H | -0.94056 | -2.32539 | 0.96957 | H | -0.89552 | -2.26163 | 1.09529 |
| H | -0.111151 | -0.15014 | 1.80377 | H | -0.11885 | -0.05681 | 1.89321 |
| H | -3.50812 | 4.09494 | 1.22811 | H | -3.54746 | 4.11683 | 1.13946 |
| H | -2.89279 | 2.70003 | 2.10527 | H | -2.93586 | 2.74687 | 2.05829 |
| H | -3.67743 | 2.74648 | -0.85189 | H | -3.649 | 2.72776 | -0.91733 |
| H | -4.66739 | 2.07884 | 0.42901 | H | -4.66136 | 2.07167 | 0.35215 |
| H | -3.51206 | -0.08683 | 2.51611 | H | -3.53998 | -0.04622 | 2.50454 |
| H | -4.95129 | 0.68527 | 1.85748 | H | -4.96696 | 0.695 | 1.78729 |
| H | -4.92822 | -1.04935 | 2.09599 | H | -4.93166 | -1.03352 | 2.05815 |
| H | -1.36814 | -4.39253 | -1.86684 | H | -2.05411 | -5.82038 | -0.76893 |
| H | 5.95349 | 0.59125 | 1.36855 | H | 5.96787 | 0.60425 | 1.25748 |
| H | 6.33572 | -0.93502 | 2.17901 | H | 6.35053 | -0.89779 | 2.1117 |
| H | 4.02491 | 0.47947 | 2.73793 | H | 4.07754 | 0.57574 | 2.68344 |
| H | 5.36428 | -2.20332 | 0.30129 | H | 5.30523 | -2.2168 | 0.31009 |
| H | 1.7489 | -1.33672 | -2.78723 | H | 1.60813 | -1.40358 | -2.69667 |
| H | 2.9116 | -1.61738 | 3.47538 | H | 2.95887 | -1.47162 | 3.53719 |
| H | 4.61639 | -1.60884 | 3.94602 | H | 4.67737 | -1.4708 | 3.95647 |
| H | 4.08345 | -2.58923 | 2.57118 | H | 4.08918 | -2.49685 | 2.63833 |

| | | | | | | | |
|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
| H | 3.50734 | -2.81608 | -2.98154 | H | 3.32145 | -2.94019 | -2.8657 |
| H | 5.08778 | -2.15686 | -2.48222 | H | 4.93476 | -2.30665 | -2.44141 |
| H | 4.22712 | -3.26883 | -1.42628 | H | 4.06793 | -3.33781 | -1.30938 |
| H | 1.99055 | 3.57185 | -1.11236 | H | 1.9838 | 3.61162 | -1.12435 |
| H | 1.6354 | 3.61266 | 0.61247 | H | 1.63344 | 3.65424 | 0.60095 |
| H | 8.36258 | -1.18791 | -1.33454 | H | 8.26642 | -1.30972 | -1.44977 |
| H | 8.14645 | -1.0238 | 0.42651 | H | 8.10611 | -1.08434 | 0.31052 |
| H | 7.61155 | -2.5143 | -0.4038 | H | 7.52154 | -2.59137 | -0.45382 |
| H | 0.73219 | 5.64534 | -0.2622 | H | 0.72189 | 5.68476 | -0.26091 |
| H | 0.04583 | 4.87115 | -1.67581 | H | 0.05159 | 4.91898 | -1.68671 |
| H | -2.90986 | 5.79103 | 0.48148 | H | -2.9338 | 5.82182 | 0.42598 |
| H | -1.39115 | 6.69268 | 0.51054 | H | -1.42159 | 6.73415 | 0.4446 |
| H | -2.0731 | 6.17512 | -1.02717 | H | -2.0946 | 6.18633 | -1.08666 |
| H | -4.87536 | -3.00212 | 1.86165 | H | -4.69077 | -2.97245 | 1.93119 |
| H | -4.41986 | -4.61944 | 1.3193 | H | -4.37016 | -4.59945 | 1.32818 |
| H | -3.2674 | -3.64757 | 2.218 | H | -3.11968 | -3.72229 | 2.20899 |
| 4-4 | X axis(Å) | Y axis(Å) | Z axis(Å) | 4-5 | X axis(Å) | Y axis(Å) | Z axis(Å) |
| C | -5.67937 | -1.42367 | -0.70547 | C | -5.6792 | -1.42391 | -0.70561 |
| C | -4.79042 | -2.64417 | -0.96077 | C | -4.79024 | -2.64443 | -0.96077 |
| C | -3.6406 | -2.77708 | 0.08948 | C | -3.64043 | -2.77722 | 0.08954 |
| C | -2.86161 | -1.42116 | 0.19894 | C | -2.86148 | -1.42127 | 0.19889 |
| C | -3.70587 | -0.10439 | 0.30417 | C | -3.70577 | -0.10451 | 0.30403 |
| C | -4.85104 | -0.13517 | -0.73942 | C | -4.85089 | -0.1354 | -0.73962 |
| C | -1.77203 | -1.43327 | 1.28222 | C | -1.7719 | -1.4333 | 1.28217 |
| C | -1.01936 | -0.13218 | 1.32018 | C | -1.01929 | -0.13217 | 1.32012 |
| C | -1.3916 | 0.98398 | 0.67369 | C | -1.39154 | 0.98395 | 0.67358 |
| C | -2.72417 | 1.06752 | -0.07588 | C | -2.72408 | 1.0674 | -0.07606 |
| C | -0.44804 | 2.1943 | 0.67104 | C | -0.44808 | 2.19433 | 0.67101 |
| C | -1.19647 | 3.52701 | 0.61455 | C | -1.19658 | 3.52701 | 0.61464 |
| C | -2.62413 | 3.37976 | 1.07959 | C | -2.62432 | 3.37964 | 1.07945 |
| C | -3.36255 | 2.48853 | 0.06217 | C | -3.36249 | 2.4884 | 0.06186 |
| C | -4.2935 | 0.12323 | 1.71754 | C | -4.29344 | 0.12316 | 1.71737 |
| C | -2.68528 | -3.82164 | -0.51175 | C | -2.685 | -3.82176 | -0.51155 |
| O | -1.65193 | -3.59833 | -1.11156 | O | -1.6516 | -3.59843 | -1.11124 |
| O | -3.14305 | -5.09533 | -0.37002 | O | -3.1428 | -5.09545 | -0.36987 |
| C | 5.07933 | -2.02756 | 1.56823 | C | 5.07895 | -2.0278 | 1.56816 |
| C | 4.10264 | -0.96684 | 2.10276 | C | 4.10236 | -0.96699 | 2.10271 |
| C | 3.14987 | -0.77304 | 0.90556 | C | 3.14973 | -0.77295 | 0.90545 |
| C | 4.01404 | -0.97321 | -0.38038 | C | 4.01398 | -0.97315 | -0.38045 |
| C | 5.34163 | -1.63935 | 0.11152 | C | 5.34146 | -1.63946 | 0.11154 |
| C | 2.3762 | 0.54483 | 0.89551 | C | 2.37623 | 0.54501 | 0.89542 |
| C | 1.58581 | 0.87664 | -0.28951 | C | 1.58586 | 0.87686 | -0.2896 |
| C | 1.47487 | 0.13099 | -1.42865 | C | 1.47484 | 0.13119 | -1.42873 |

| | | | | | | | |
|---|----------|----------|----------|---|----------|----------|----------|
| C | 2.0636 | -1.09672 | -1.91715 | C | 2.06357 | -1.0965 | -1.91728 |
| C | 3.22295 | -1.64759 | -1.48808 | C | 3.22291 | -1.64742 | -1.48824 |
| C | 0.69656 | 2.10211 | -0.41672 | C | 0.6966 | 2.10231 | -0.41675 |
| O | 0.587 | 0.69361 | -2.32909 | O | 0.58693 | 0.69381 | -2.32912 |
| C | 3.41348 | -1.35832 | 3.41136 | C | 3.41303 | -1.35847 | 3.41122 |
| C | 3.72823 | -2.90871 | -2.13622 | C | 3.72824 | -2.90845 | -2.1365 |
| C | 1.53007 | 3.41192 | -0.34106 | C | 1.53 | 3.41217 | -0.3409 |
| O | 6.42235 | -0.70223 | 0.10346 | O | 6.42224 | -0.70239 | 0.10374 |
| C | 6.98323 | -0.46662 | -1.17536 | C | 6.98336 | -0.46673 | -1.17497 |
| O | 2.3871 | 1.28736 | 1.88003 | O | 2.38714 | 1.28748 | 1.87996 |
| C | 0.10961 | 1.8974 | -1.81276 | C | 0.10963 | 1.89767 | -1.8128 |
| O | -0.63277 | 2.58054 | -2.46594 | O | -0.63275 | 2.58081 | -2.46596 |
| C | 0.69775 | 4.67782 | -0.5426 | C | 0.69763 | 4.67805 | -0.54227 |
| C | -0.6646 | 4.65714 | 0.11187 | C | -0.66473 | 4.65724 | 0.11219 |
| C | -1.3692 | 5.9915 | 0.03888 | C | -1.36941 | 5.99156 | 0.03937 |
| H | 4.29045 | 0.02413 | -0.75492 | H | 4.29054 | 0.02416 | -0.75497 |
| C | -4.20471 | -3.32336 | 1.42296 | C | -4.20458 | -3.32338 | 1.42305 |
| H | -2.33316 | -1.3404 | -0.75896 | H | -2.33303 | -1.34059 | -0.75902 |
| H | -2.50485 | 0.92764 | -1.14352 | H | -2.50472 | 0.92743 | -1.14369 |
| H | 0.10293 | 2.16037 | 1.61889 | H | 0.10289 | 2.16036 | 1.61885 |
| H | 2.39008 | -1.572 | 0.93213 | H | 2.38985 | -1.57184 | 0.93187 |
| H | -6.45788 | -1.38173 | -1.47707 | H | -6.45766 | -1.38203 | -1.47726 |
| H | -6.20656 | -1.52471 | 0.25109 | H | -6.20644 | -1.52489 | 0.25093 |
| H | -5.38044 | -3.56717 | -0.9642 | H | -5.38023 | -3.56744 | -0.9641 |
| H | -4.34744 | -2.54371 | -1.96113 | H | -4.34723 | -2.54406 | -1.96112 |
| H | -5.50593 | 0.733 | -0.6007 | H | -5.5058 | 0.73277 | -0.601 |
| H | -4.41529 | -0.03605 | -1.74395 | H | -4.41509 | -0.03635 | -1.74413 |
| H | -2.19287 | -1.64742 | 2.27481 | H | -2.19273 | -1.64744 | 2.27476 |
| H | -1.06178 | -2.24475 | 1.07851 | H | -1.06162 | -2.24476 | 1.07849 |
| H | -0.0977 | -0.12492 | 1.89921 | H | -0.09766 | -0.12486 | 1.89921 |
| H | -3.13441 | 4.34048 | 1.16819 | H | -3.13469 | 4.34032 | 1.16795 |
| H | -2.65582 | 2.90943 | 2.07286 | H | -2.65614 | 2.90929 | 2.0727 |
| H | -3.3355 | 2.99182 | -0.90967 | H | -3.33522 | 2.9917 | -0.90997 |
| H | -4.41767 | 2.41474 | 0.34034 | H | -4.41767 | 2.4146 | 0.33977 |
| H | -3.51413 | 0.18652 | 2.48104 | H | -3.51409 | 0.18654 | 2.48087 |
| H | -4.86212 | 1.05659 | 1.75598 | H | -4.86212 | 1.05648 | 1.75573 |
| H | -4.98242 | -0.67038 | 2.01135 | H | -4.98231 | -0.67048 | 2.01121 |
| H | -2.50874 | -5.66887 | -0.83233 | H | -2.50838 | -5.66902 | -0.83198 |
| H | 6.01321 | -2.09193 | 2.13408 | H | 6.01275 | -2.0924 | 2.13412 |
| H | 4.59919 | -3.01622 | 1.59748 | H | 4.59862 | -3.01639 | 1.59723 |
| H | 4.64851 | -0.02883 | 2.25933 | H | 4.64836 | -0.02907 | 2.25939 |
| H | 5.63284 | -2.50479 | -0.49731 | H | 5.63271 | -2.50483 | -0.49735 |
| H | 1.51893 | -1.55614 | -2.73724 | H | 1.51894 | -1.55585 | -2.73744 |

| | | | | | | | |
|---|----------|----------|----------|---|----------|----------|----------|
| H | 2.73717 | -0.56858 | 3.74802 | H | 2.73677 | -0.56867 | 3.74785 |
| H | 4.15226 | -1.53128 | 4.20229 | H | 4.1517 | -1.53154 | 4.20222 |
| H | 2.83494 | -2.2838 | 3.2895 | H | 2.8344 | -2.28387 | 3.28925 |
| H | 3.02867 | -3.26473 | -2.89617 | H | 3.02872 | -3.26439 | -2.89654 |
| H | 4.70233 | -2.74981 | -2.61526 | H | 4.70236 | -2.74947 | -2.61548 |
| H | 3.86731 | -3.70997 | -1.39943 | H | 3.86729 | -3.7098 | -1.39981 |
| H | 2.34273 | 3.37226 | -1.07604 | H | 1.9939 | 3.41377 | 0.64926 |
| H | 1.99398 | 3.41363 | 0.6491 | H | 2.34268 | 3.37265 | -1.07587 |
| H | 7.80952 | 0.23372 | -1.03581 | H | 7.80969 | 0.23352 | -1.03523 |
| H | 7.37226 | -1.39695 | -1.61777 | H | 7.37236 | -1.39705 | -1.6174 |
| H | 6.26014 | -0.0206 | -1.87496 | H | 6.26042 | -0.02057 | -1.87466 |
| H | 1.27502 | 5.53649 | -0.17123 | H | 1.27486 | 5.53671 | -0.17081 |
| H | 0.54503 | 4.86585 | -1.61552 | H | 0.54488 | 4.86621 | -1.61517 |
| H | -2.35769 | 5.99778 | 0.49939 | H | -2.35774 | 5.99779 | 0.50022 |
| H | -0.76907 | 6.76877 | 0.53071 | H | -0.76914 | 6.76885 | 0.53102 |
| H | -1.48623 | 6.30421 | -1.00805 | H | -1.48679 | 6.30429 | -1.00751 |
| H | -4.90863 | -2.62241 | 1.87125 | H | -4.90869 | -2.62249 | 1.87114 |
| H | -4.7295 | -4.26599 | 1.25465 | H | -4.72917 | -4.26614 | 1.25485 |
| H | -3.41323 | -3.51206 | 2.15347 | H | -3.41315 | -3.5118 | 2.1537 |

Table S2. DP4+ analysis results of **3a** (isomer1) and **3b** (Isomer 2)

| Functional mPW1PW91 | | Solvent? | Basis Set | | Type of Data | | |
|------------------------|------|----------|--------------|-------|-----------------|---|---|
| | | PCM | 6-311+G(d,p) | | Unscaled Shifts | | |
| Nuclei | sp2? | DP4+ | 100.00% | 0.00% | - | - | - |
| C | x | 198.9 | 207.7 | 207.6 | | | |
| C | x | 181.3 | 188.5 | 188.8 | | | |
| C | x | 177 | 187.4 | 188.0 | | | |
| C | x | 155.5 | 163.6 | 163.8 | | | |
| C | x | 144.8 | 155.8 | 155.8 | | | |
| C | x | 141.6 | 152.2 | 150.7 | | | |
| C | x | 132.4 | 143.8 | 142.6 | | | |
| C | x | 128.3 | 138.5 | 139.5 | | | |
| C | x | 127.9 | 133.1 | 134.0 | | | |
| C | x | 125.9 | 132.9 | 133.2 | | | |
| C | x | 112.6 | 118.4 | 118.4 | | | |
| C | | 64.4 | 69.80 | 68.90 | | | |
| C | | 63.5 | 68.50 | 68.00 | | | |
| C | | 50.7 | 58.40 | 58.40 | | | |
| C | | 49.7 | 55.04 | 55.90 | | | |
| C | | 48.7 | 52.29 | 51.72 | | | |
| C | | 46.2 | 52.15 | 51.35 | | | |
| C | | 45.7 | 50.57 | 51.28 | | | |
| C | | 43.9 | 47.63 | 45.71 | | | |
| C | | 37.5 | 42.07 | 41.67 | | | |
| C | | 37 | 40.52 | 41.38 | | | |
| C | | 36 | 39.79 | 39.99 | | | |
| C | | 35 | 38.22 | 34.14 | | | |
| C | | 29.5 | 34.51 | 31.39 | | | |
| C | | 28.1 | 30.88 | 37.32 | | | |
| C | | 26.4 | 29.6 | 31.2 | | | |
| C | | 25.6 | 29.5 | 31 | | | |
| C | | 25.1 | 29 | 28.9 | | | |
| C | | 24.2 | 28.5 | 28.7 | | | |
| C | | 21.1 | 23.5 | 23.9 | | | |
| C | | 19.8 | 22.3 | 21.7 | | | |
| C | | 19.2 | 21.6 | 20.4 | | | |
| C | | 17.7 | 20.9 | 20.2 | | | |
| C | | 16.7 | 18.3 | 18.8 | | | |
| C | | 12.4 | 13.3 | 14.2 | | | |
| H | x | 6.83 | 6.04 | 6.04 | | | |
| H | x | 4.79 | 5.38 | 5.2 | | | |
| H | | 3.24 | 3.36 | 3.18 | | | |
| H | | 3.15 | 3.16 | 3.09 | | | |
| H | | 2.74 | 3.1 | 3.06 | | | |
| H | | 2.63 | 2.94 | 2.99 | | | |
| H | | 2.63 | 2.73 | 2.96 | | | |
| H | | 2.63 | 2.54 | 2.51 | | | |
| H | | 2.58 | 2.54 | 2.8 | | | |
| H | | 2.53 | 2.43 | 1.65 | | | |
| H | | 2.51 | 2.32 | 1.57 | | | |
| H | | 2.34 | 2.19 | 2.43 | | | |
| H | | 2.3 | 2.17 | 2.4 | | | |
| H | | 2.13 | 2.15 | 2.4 | | | |
| H | | 2.01 | 1.94 | 2.26 | | | |
| H | | 1.8 | 1.88 | 2.09 | | | |
| H | | 1.77 | 1.86 | 2 | | | |
| H | | 1.74 | 1.75 | 1.89 | | | |
| H | | 1.73 | 1.73 | 1.75 | | | |
| H | | 1.69 | 1.71 | 1.71 | | | |
| H | | 1.62 | 1.65 | 1.53 | | | |
| H | | 1.62 | 1.63 | 1.65 | | | |
| H | | 1.59 | 1.59 | 1.64 | | | |
| H | | 1.55 | 1.53 | 1.5 | | | |
| H | | 1.55 | 1.5 | 1.7 | | | |
| H | | 1.54 | 1.47 | 1.63 | | | |
| H | | 1.51 | 1.47 | 1.6 | | | |
| H | | 1.47 | 1.46 | 1.51 | | | |
| H | | 1.47 | 1.37 | 1.46 | | | |
| H | | 1.47 | 1.26 | 1.3 | | | |
| H | | 1.2 | 1.22 | 1.17 | | | |
| H | | 1.15 | 1.18 | 1.11 | | | |
| H | | 1.15 | 1.17 | 1.11 | | | |
| H | | 1.15 | 1.09 | 1.07 | | | |
| H | | 1.13 | 1.01 | 1.06 | | | |
| H | | 1.13 | 1.03 | 1.05 | | | |
| H | | 1.13 | 0.97 | 1.03 | | | |
| H | | 1.01 | 0.96 | 0.98 | | | |
| H | | 0.73 | 0.87 | 0.91 | | | |
| H | | 0.73 | 0.85 | 0.82 | | | |
| H | | 0.73 | 0.5 | 0.46 | | | |

| Functional mPW1PW91 | Solvent? PCM | Basis Set 6-311+G(d, p) | | Type of Data Unscaled Shifts | | | |
|------------------------|-----------------|----------------------------|----------|---------------------------------|----------|----------|----------|
| | | Isomer 1 | Isomer 2 | Isomer 3 | Isomer 4 | Isomer 5 | Isomer 6 |
| sDP4+ (H data) | 100.00% | 0.00% | - | - | - | - | - |
| sDP4+ (C data) | 99.99% | 0.01% | - | - | - | - | - |
| sDP4+ (all data) | 100.00% | 0.00% | - | - | - | - | - |
| uDP4+ (H data) | 100.00% | 0.00% | - | - | - | - | - |
| uDP4+ (C data) | 99.97% | 0.03% | - | - | - | - | - |
| uDP4+ (all data) | 100.00% | 0.00% | - | - | - | - | - |
| DP4+ (H data) | 100.00% | 0.00% | - | - | - | - | - |
| DP4+ (C data) | 100.00% | 0.00% | - | - | - | - | - |
| DP4+ (all data) | 100.00% | 0.00% | - | - | - | - | - |

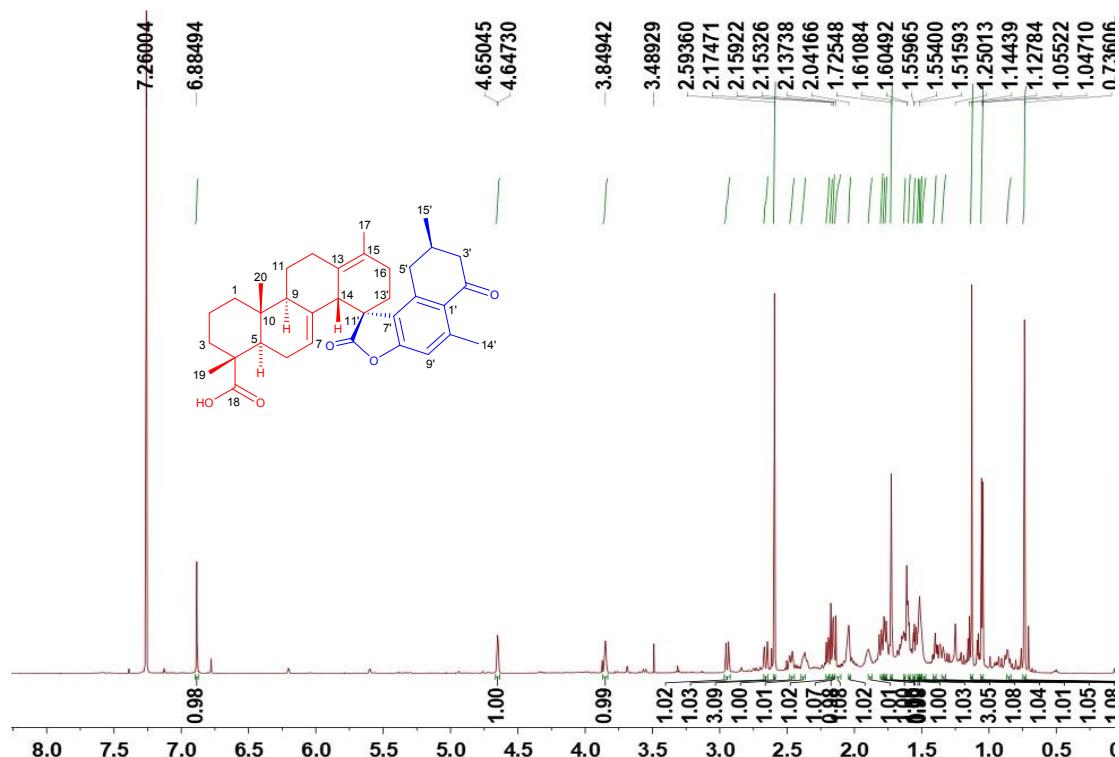


Figure S10. ¹H NMR (800 MHz) spectrum of compound 1 in CDCl_3 .

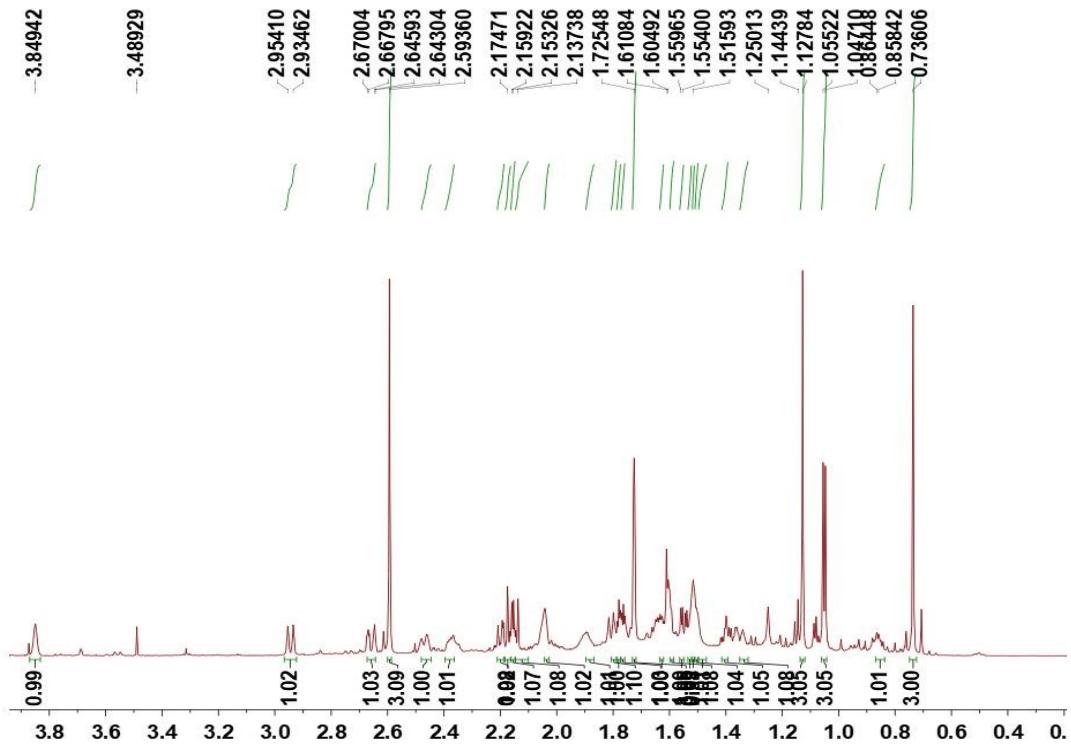


Figure S11. The part of ^1H NMR (800 MHz) spectrum of compound **1** in CDCl_3

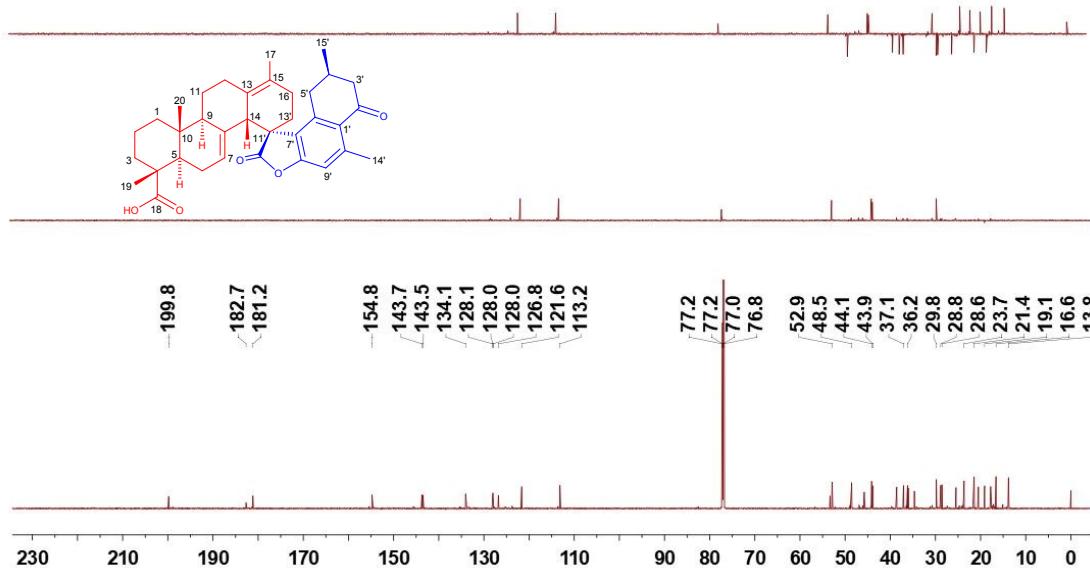


Figure S12. ^{13}C NMR (200 MHz) and DEPT spectra of compound **1** in CDCl_3 .

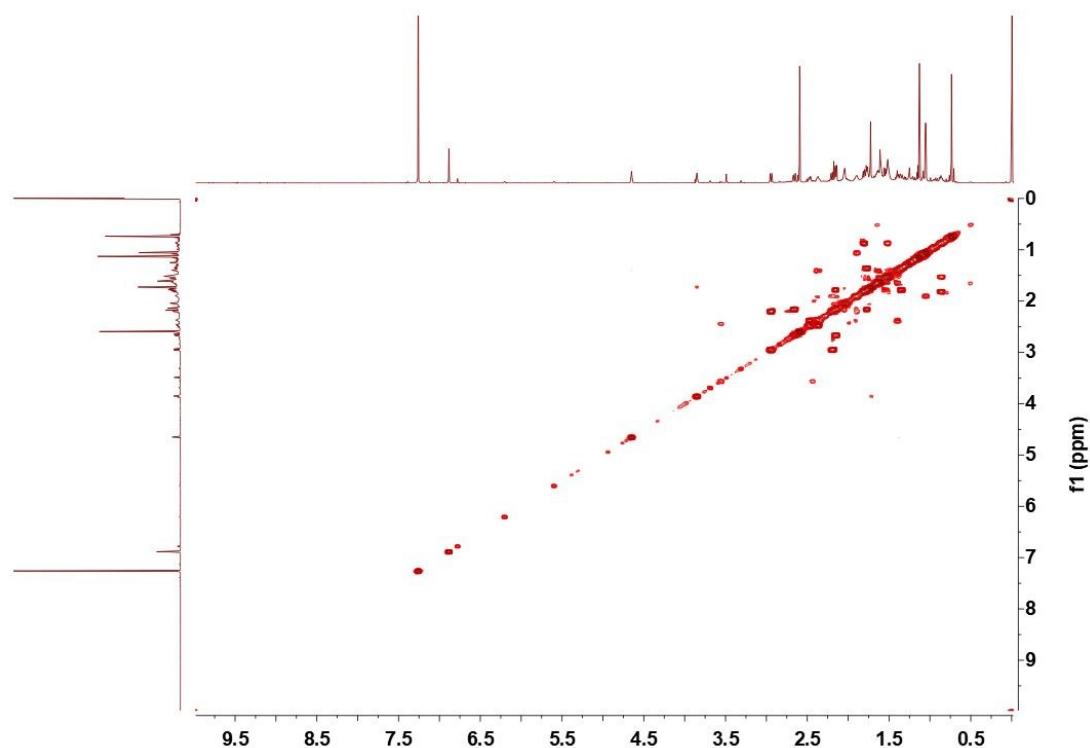


Figure S13. ^1H - ^1H COSY spectrum of compound **1** in CDCl_3 .

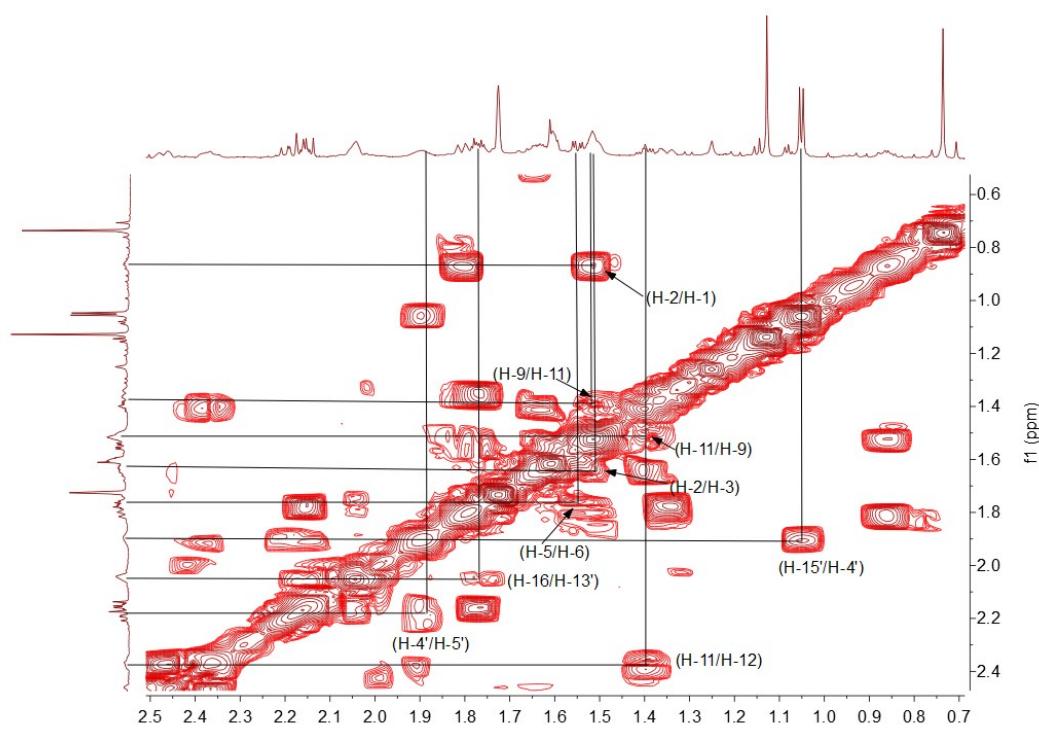


Figure S14. The part of ^1H - ^1H COSY spectrum of compound **1** in CDCl_3 (1).

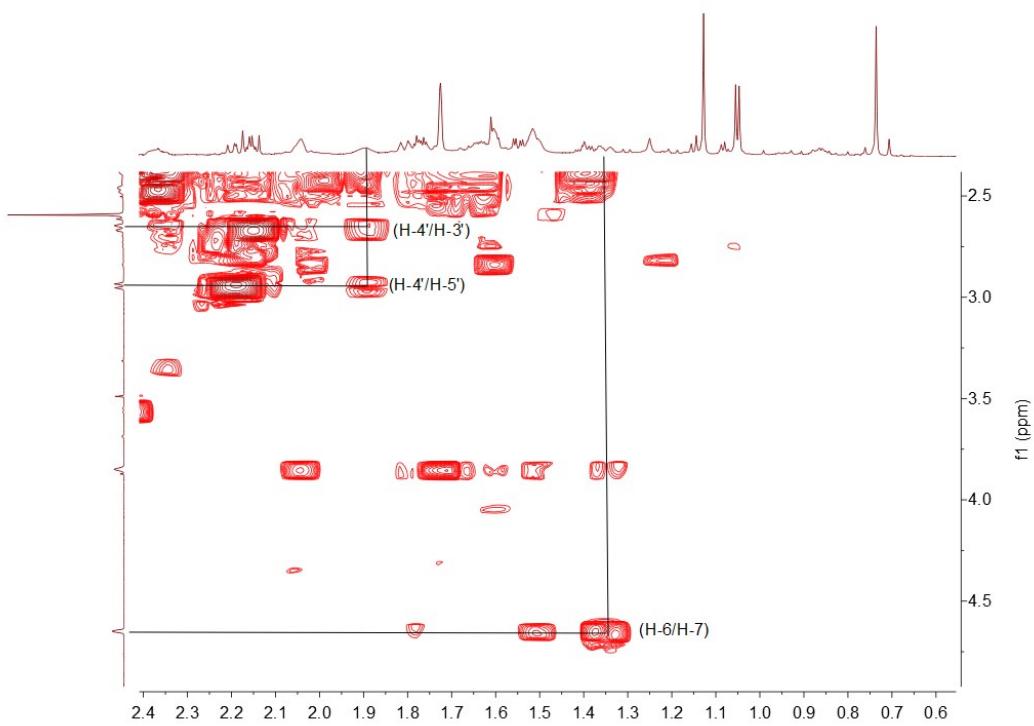


Figure S15. The part of ^1H - ^1H COSY spectrum of compound **1** in CDCl_3 (2).

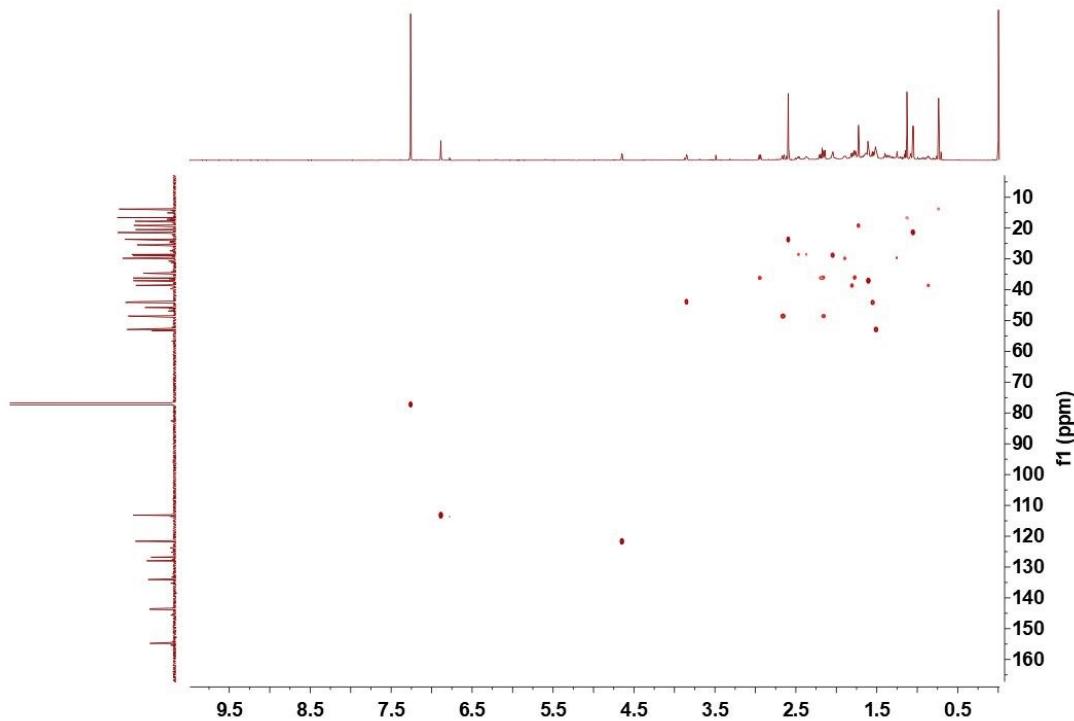


Figure S16. HSQC spectrum of compound **1** in CDCl_3 .

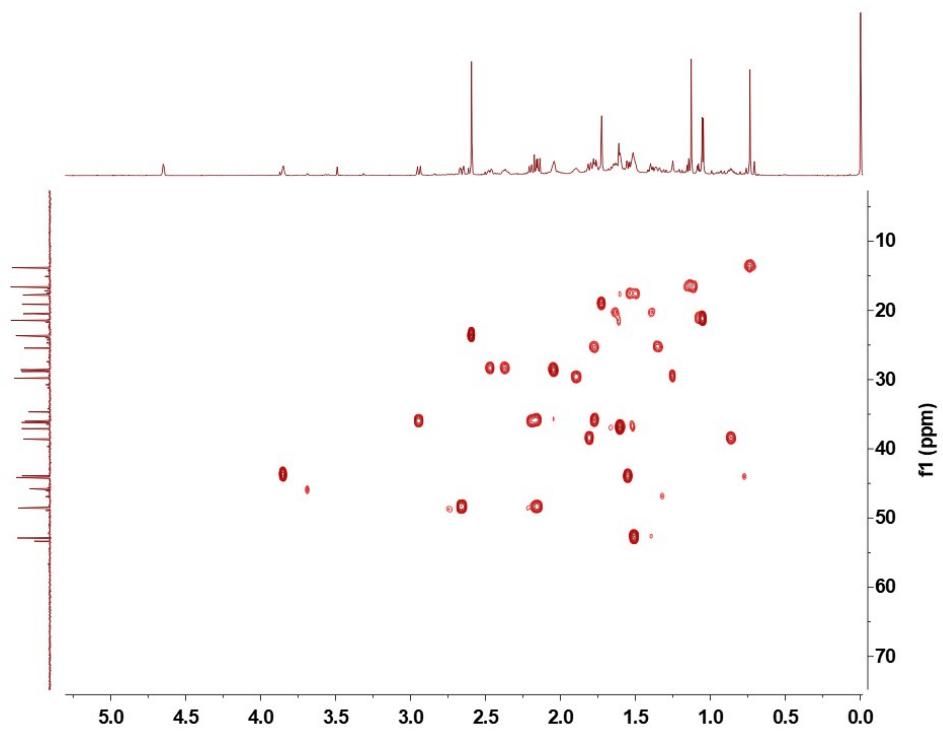


Figure S17. The part of HSQC spectrum of compound **1** in CDCl_3 .

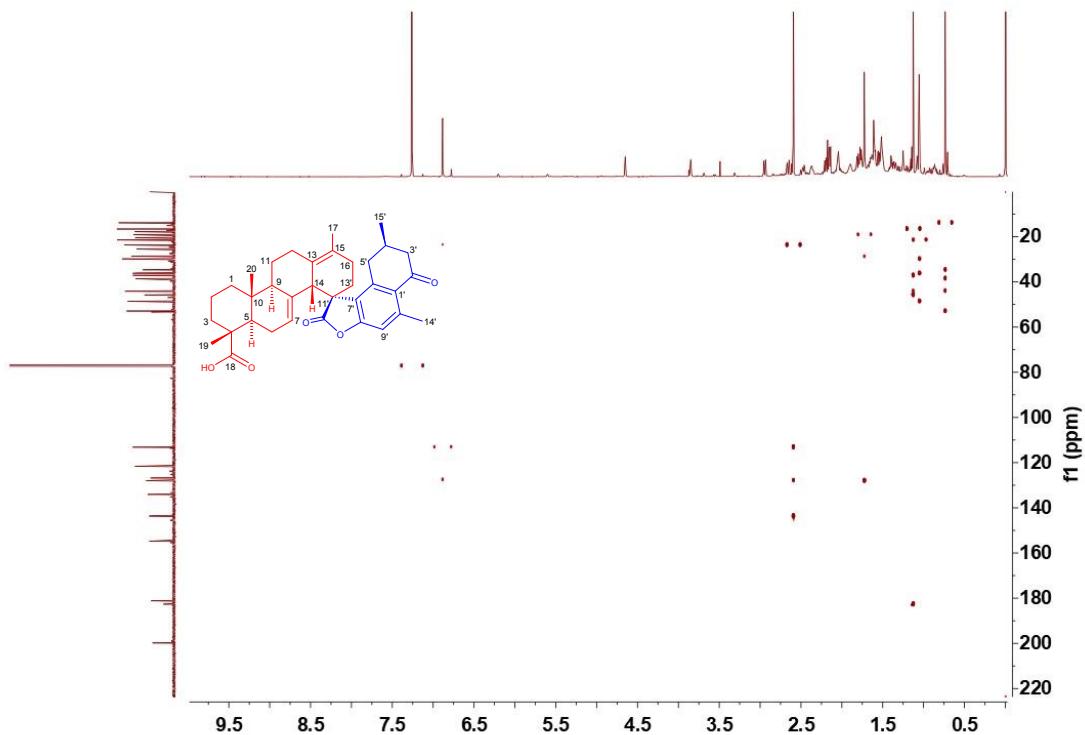


Figure S18. HMBC spectrum of compound **1** in CDCl_3 .

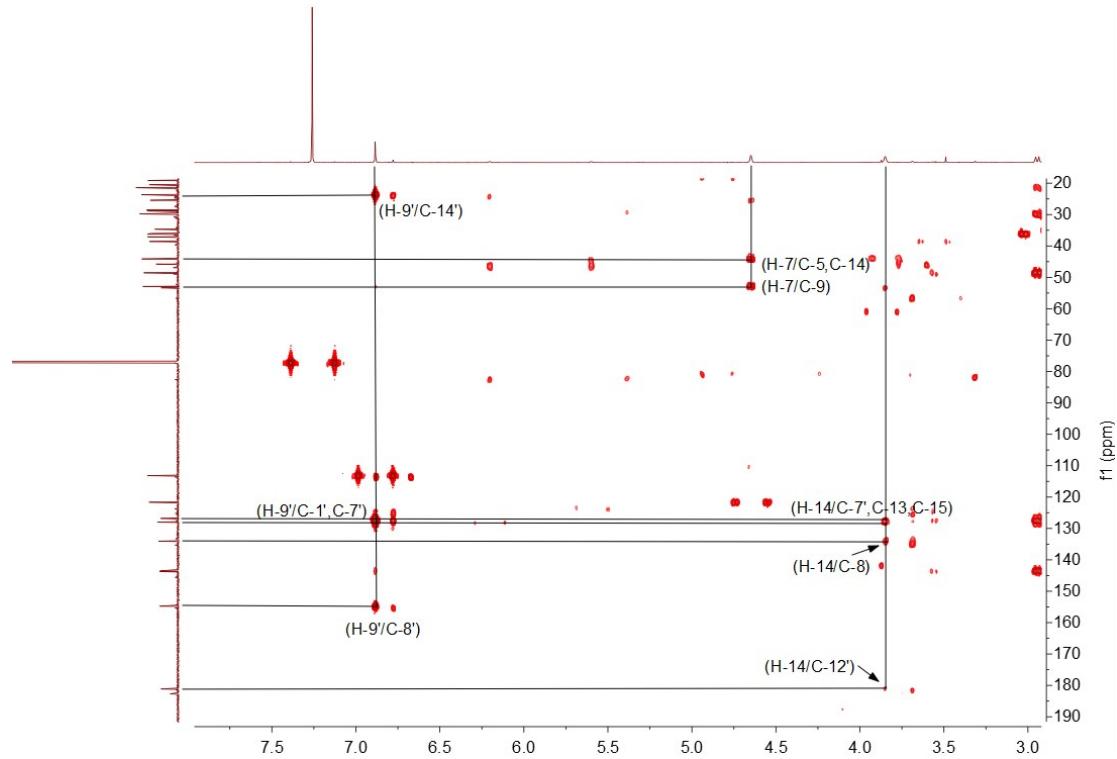


Figure S19. The part of HMBC spectrum of compound **1** in CDCl_3 (1).

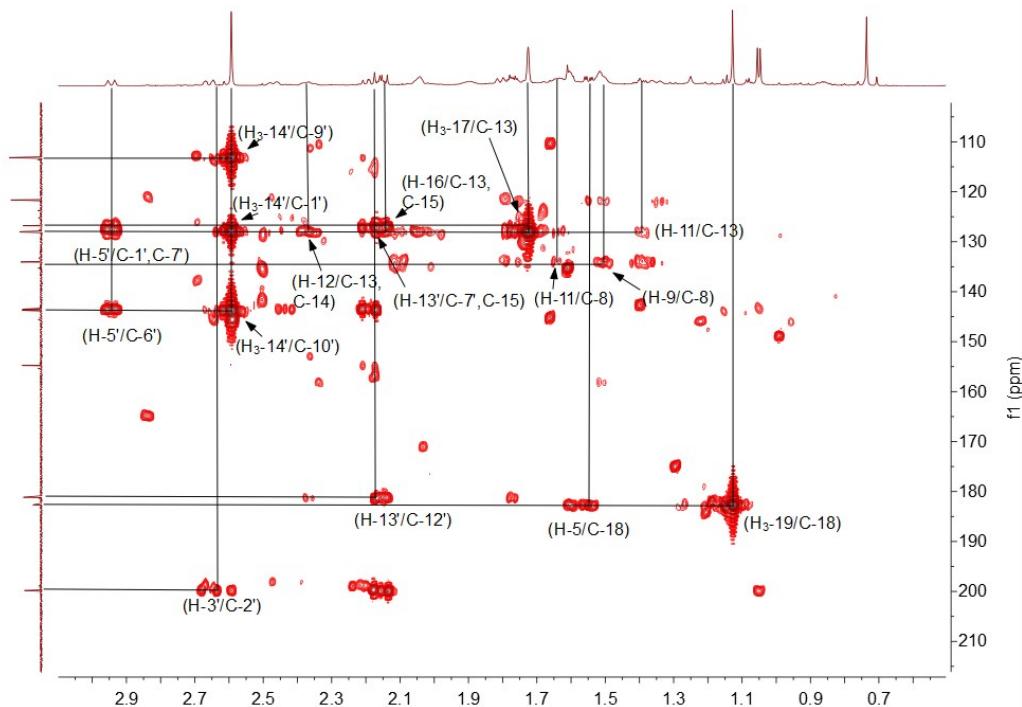


Figure S20. The part of HMBC spectrum of compound **1** in CDCl_3 (2).

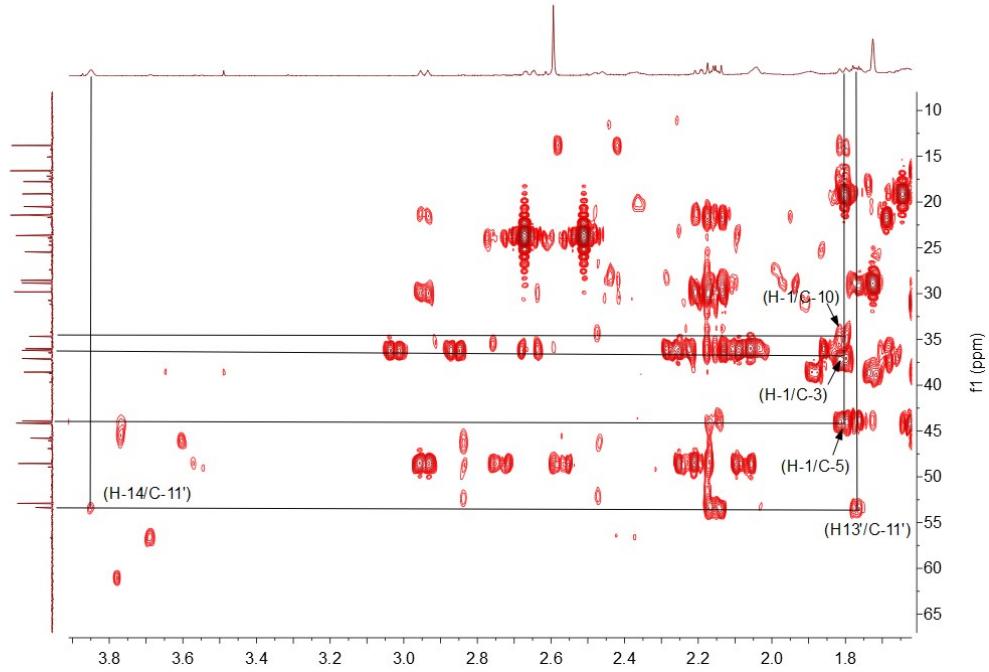


Figure S21. The part of HMBC spectrum of compound **1** in CDCl_3 (2).

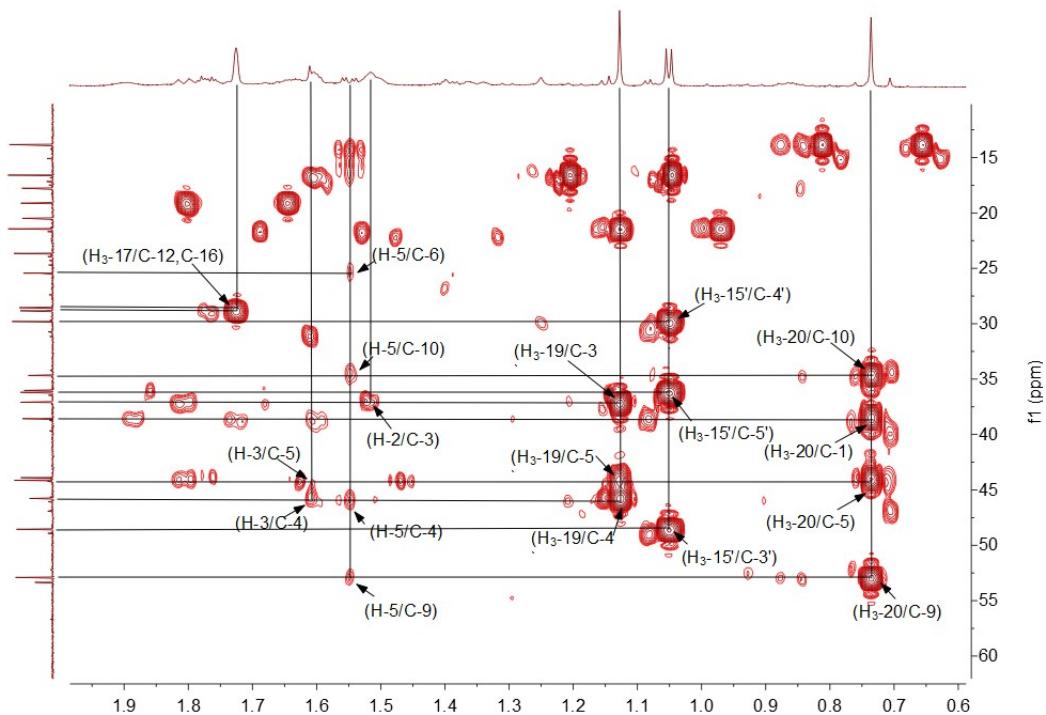


Figure S22. The part of HMBC spectrum of compound **1** in CDCl_3 (3).

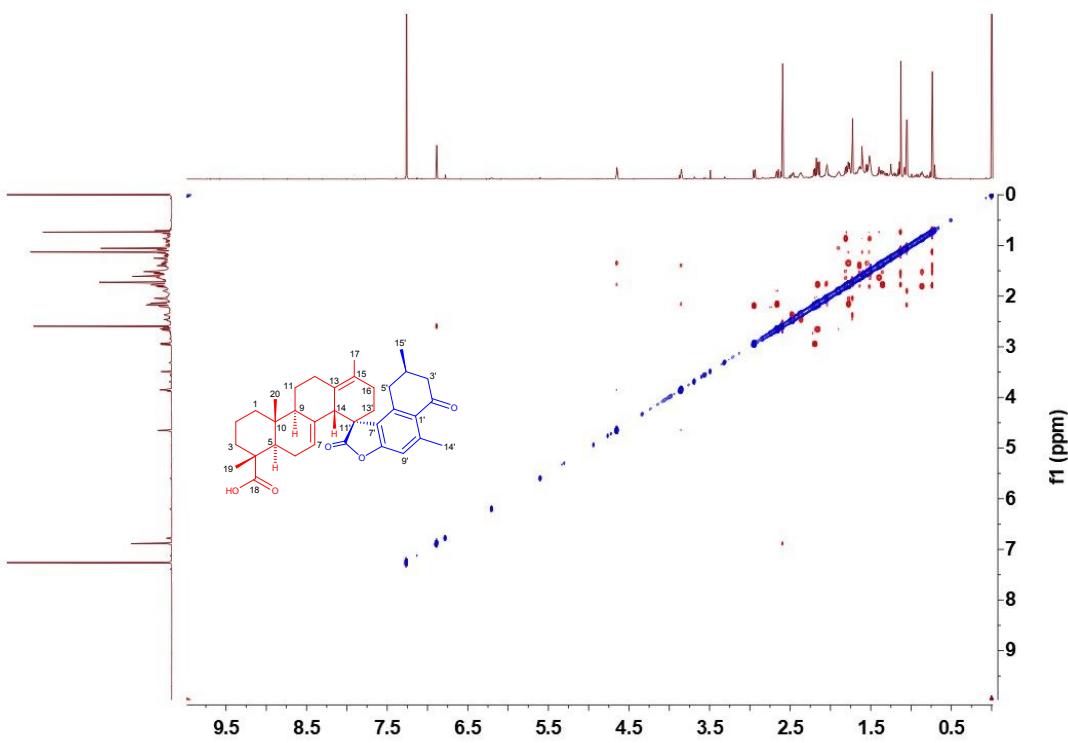


Figure S23. ROESY spectrum of compound **1** in CDCl_3 .

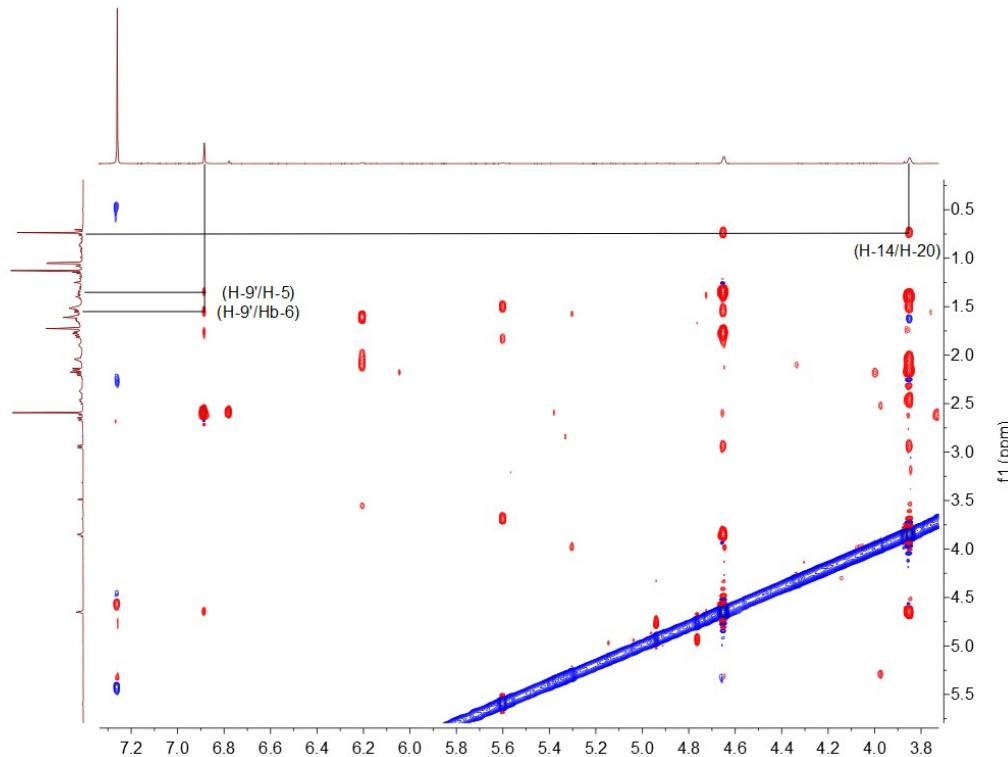


Figure S24. The part of ROESY spectrum of compound **1** in CDCl_3 (1).

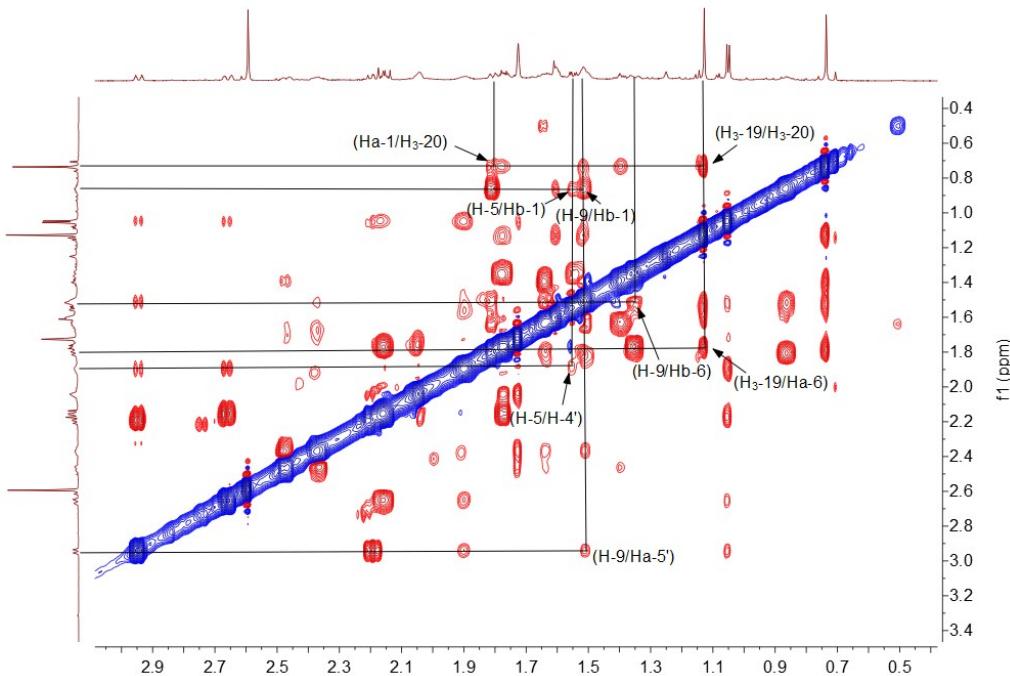


Figure S25. The part of ROESY spectrum of compound **1** in CDCl_3 (2).

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 10.0 PPM / DBE: min = -10.0, max = 120.0

Selected filters: None

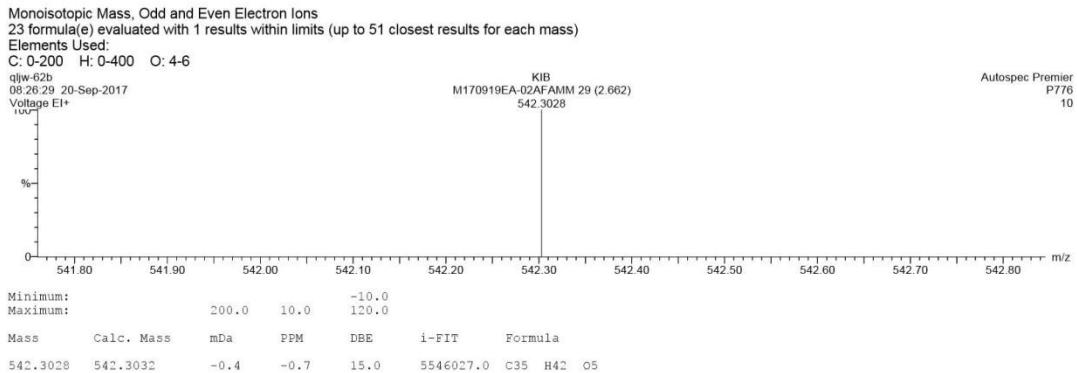


Figure S26. HRESIMS of compound **1**.

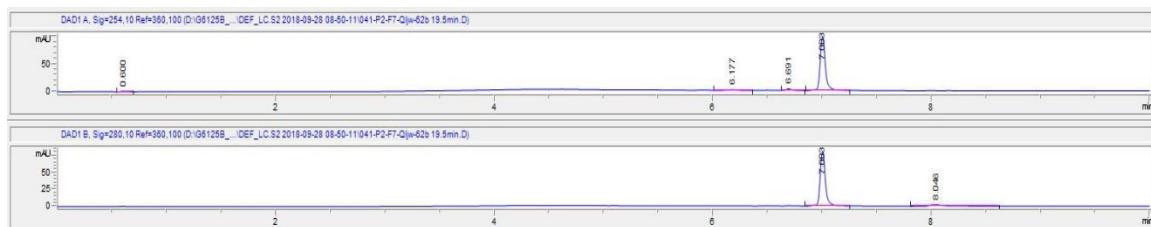


Figure S27. HPLC chromatogram of compound **1**.

(Mobile phase: aqueous MeCN, 10%-100% within 10 min, flow rate 0.25 mL/min)

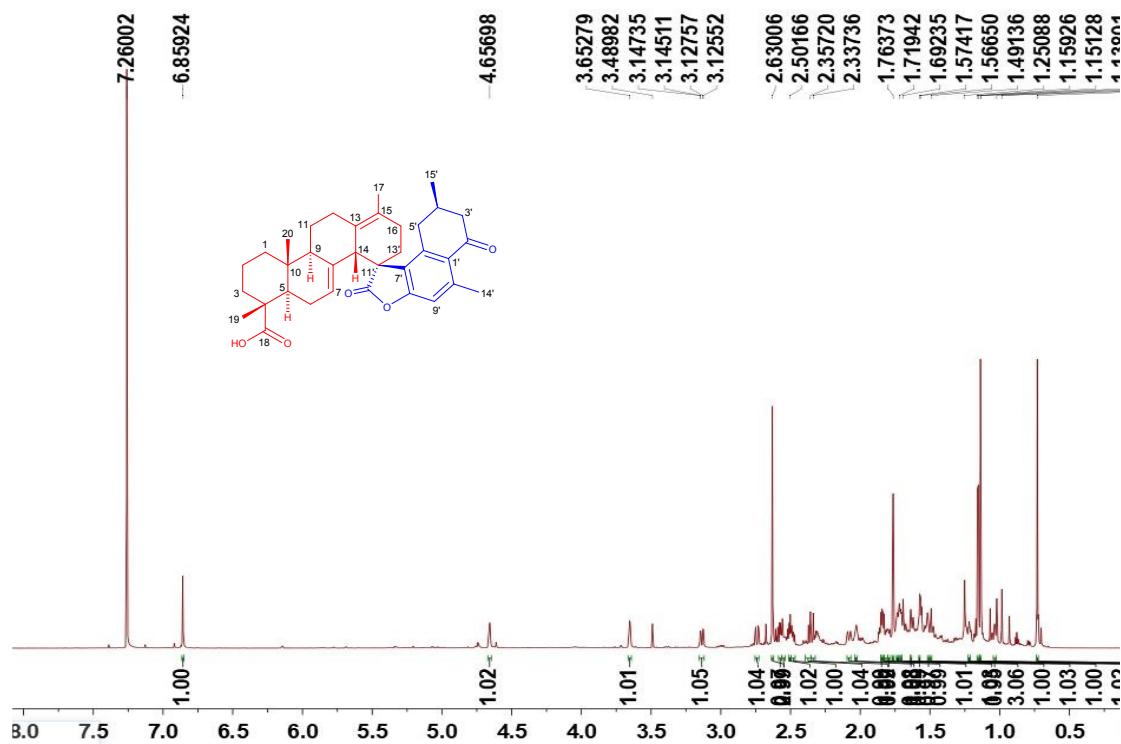


Figure S28. ¹H NMR (800 MHz) spectrum of compound 2 in CDCl₃.

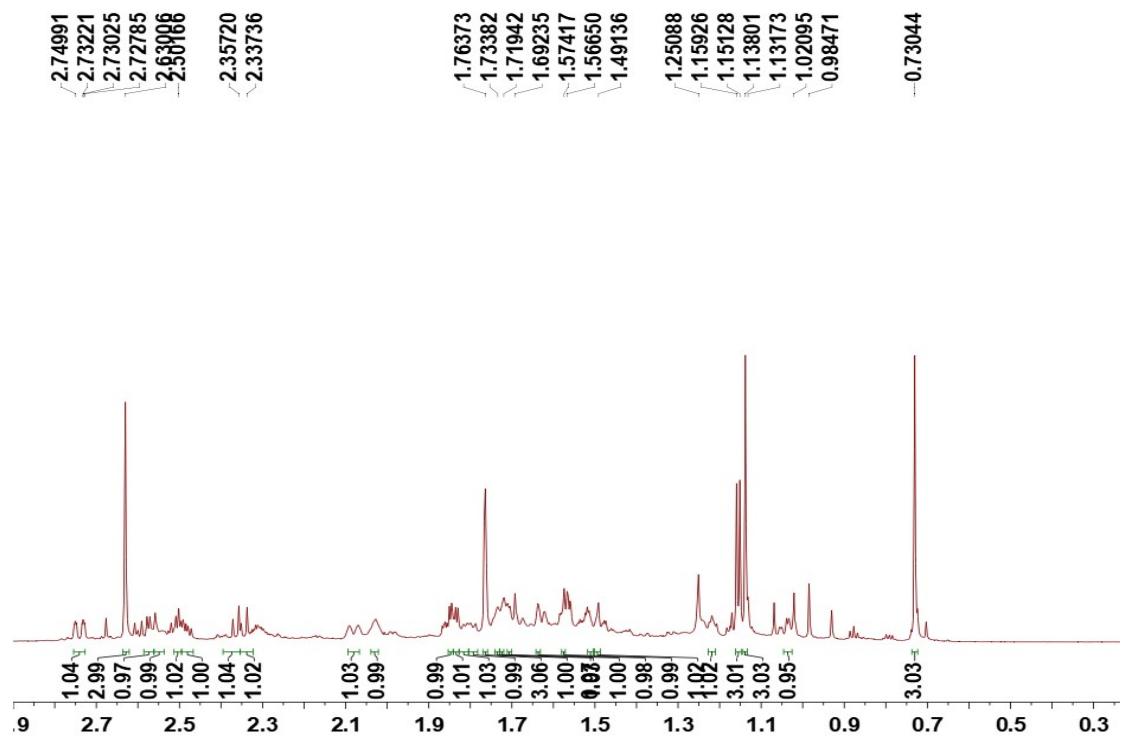


Figure S29. The part of ¹H NMR (800 MHz) spectrum of compound 2 in CDCl₃.

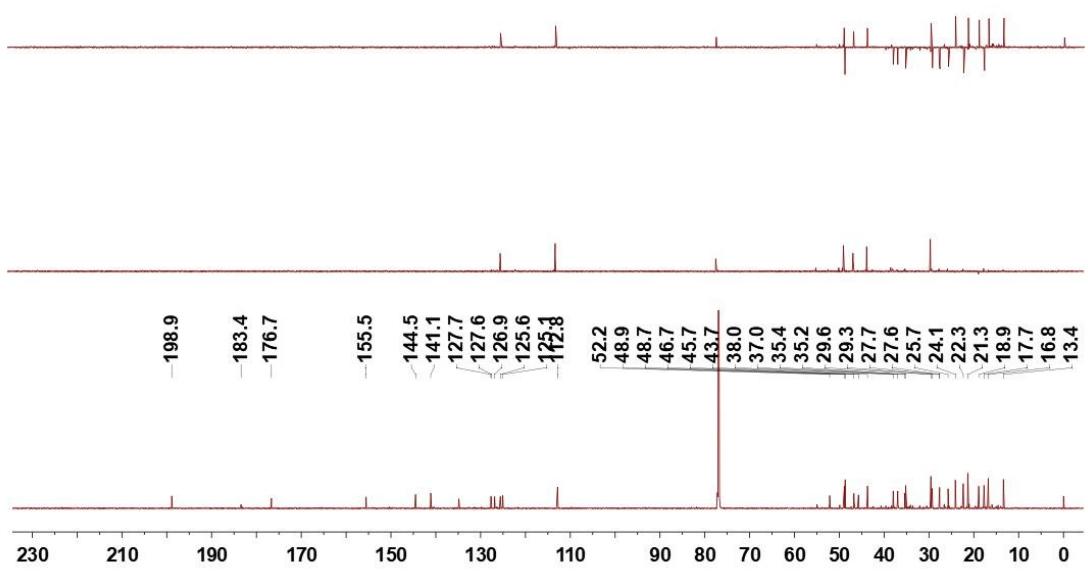


Figure S30. ^{13}C NMR (200 MHz) and DEPT spectra of compound **2** in CDCl_3 .

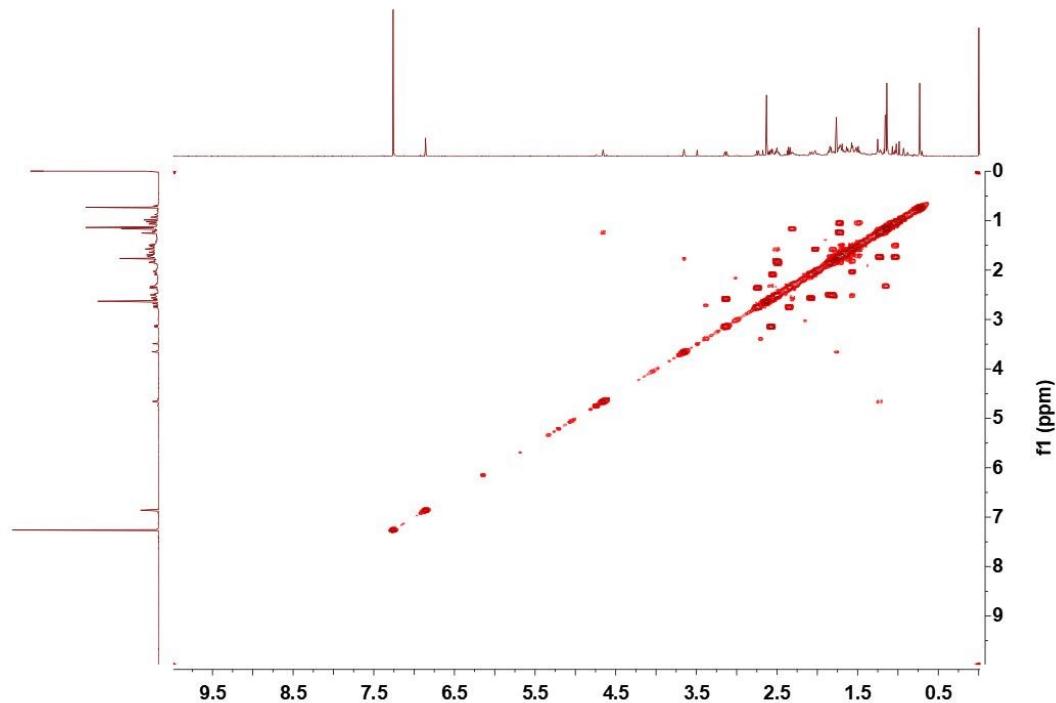


Figure S31. ^1H - ^1H COSY spectrum of compound **2** in CDCl_3 .

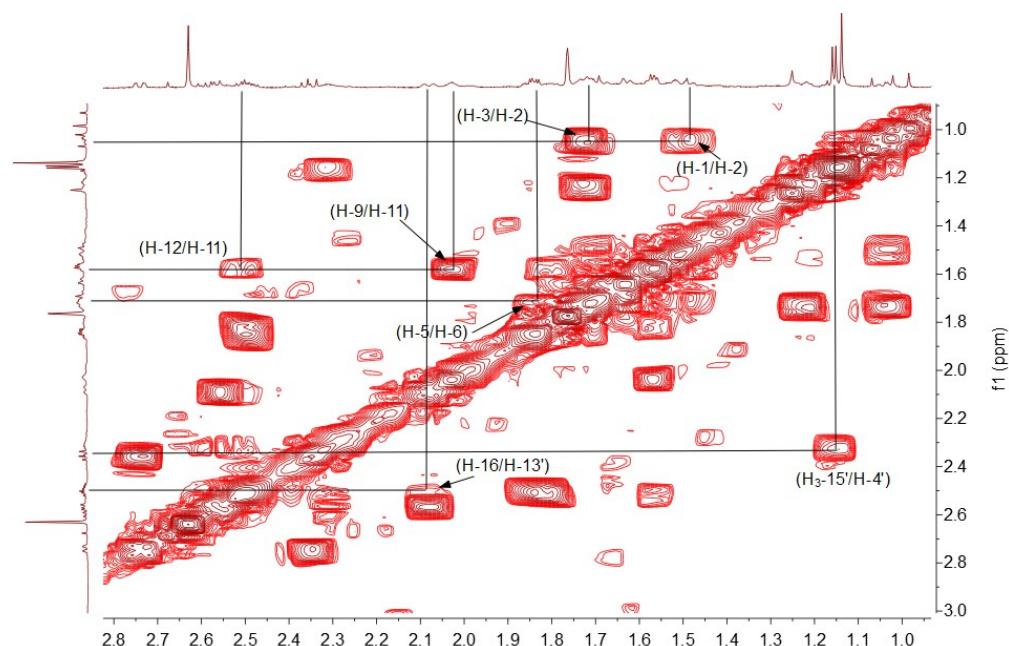


Figure S32. The part of ^1H - ^1H COSY spectrum of compound **2** in CDCl_3 (1).

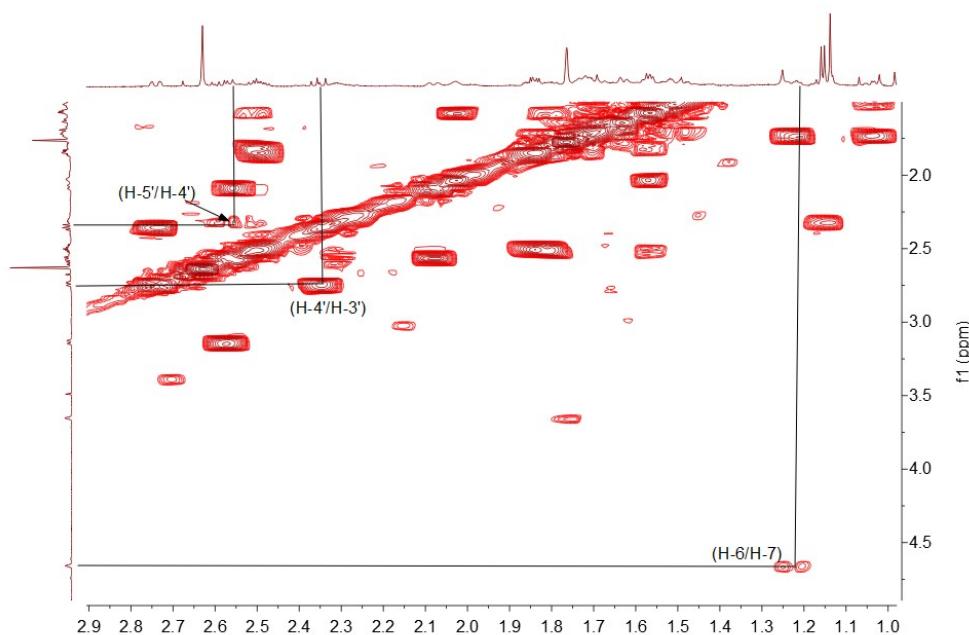


Figure S33. The part of ^1H - ^1H COSY spectrum of compound **2** in CDCl_3 (2).

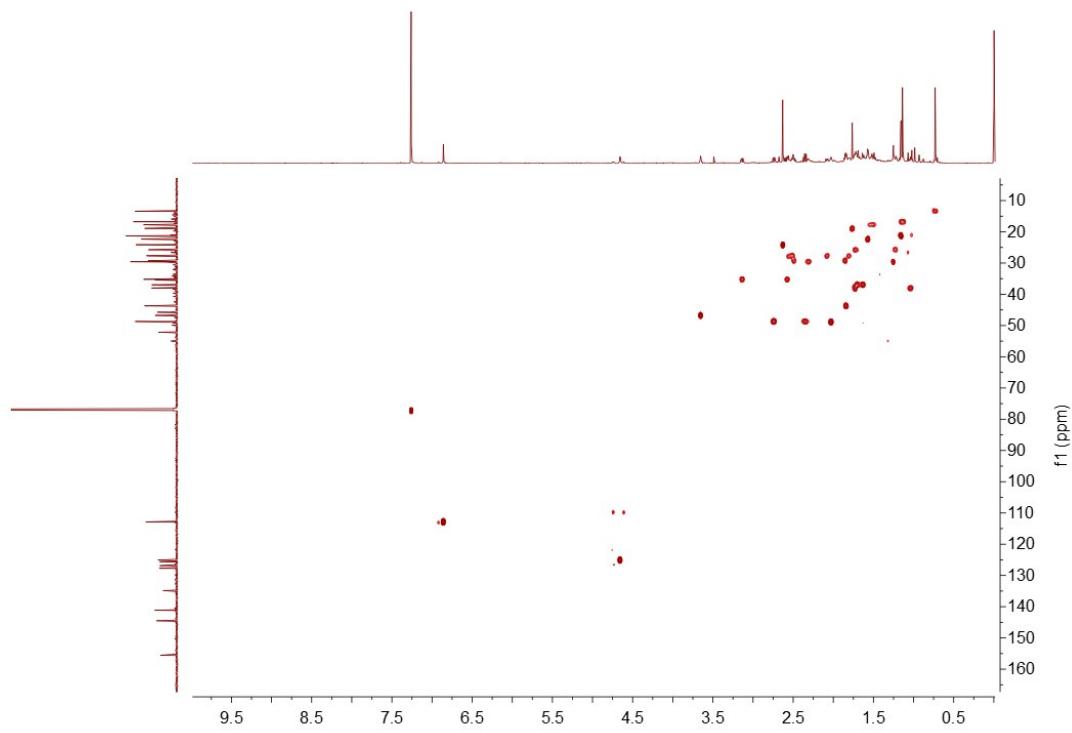


Figure S34. HSQC spectrum of compound **2** in CDCl_3 .

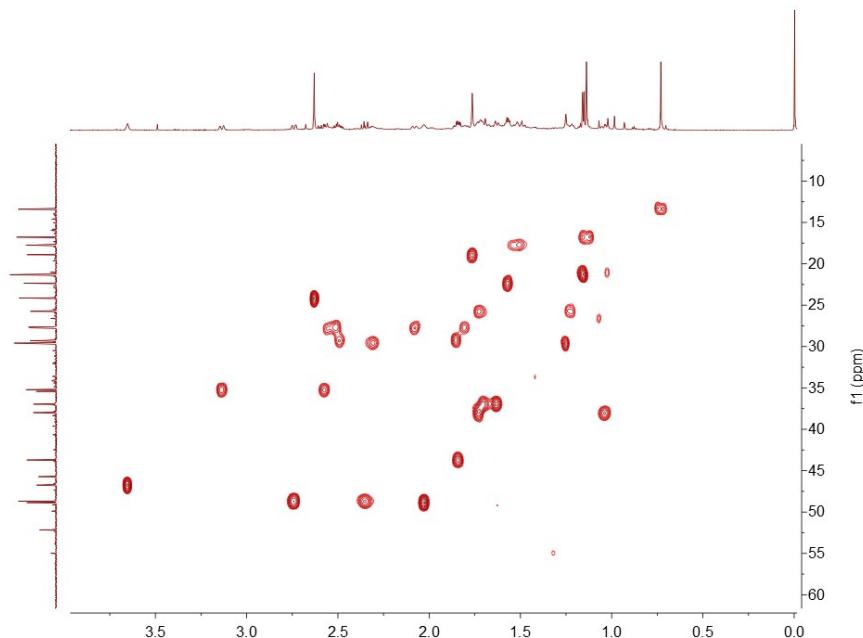


Figure S35. The part of HSQC spectrum of compound **2** in CDCl_3 .

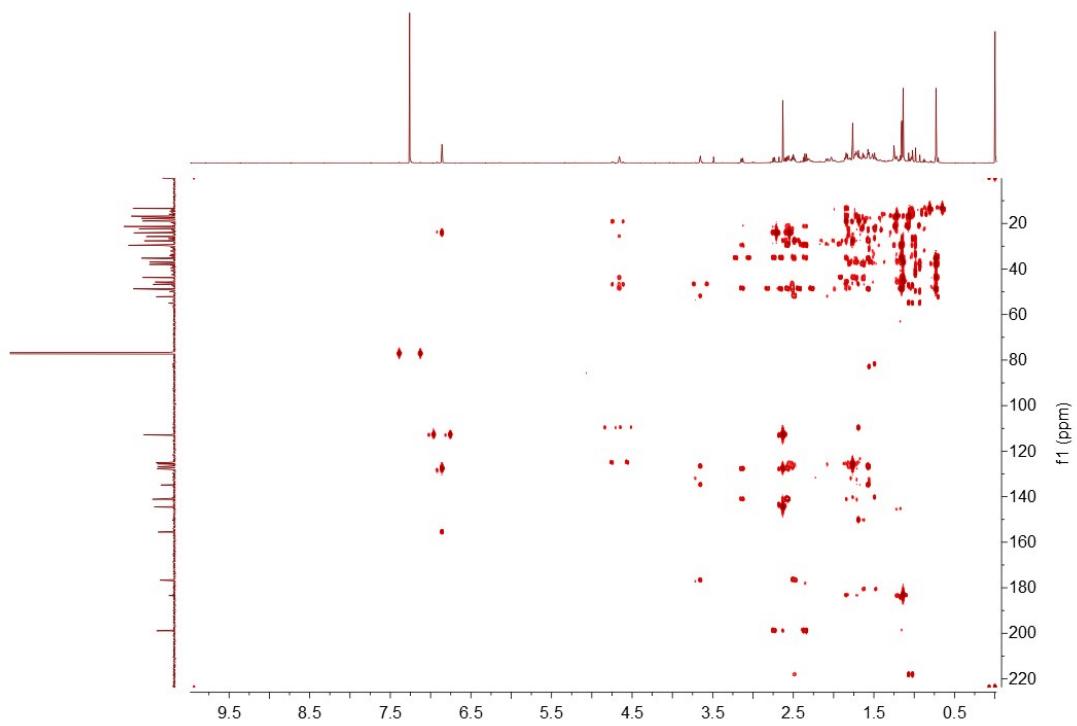


Figure S36. HMBC spectrum of compound **2** in CDCl_3 .

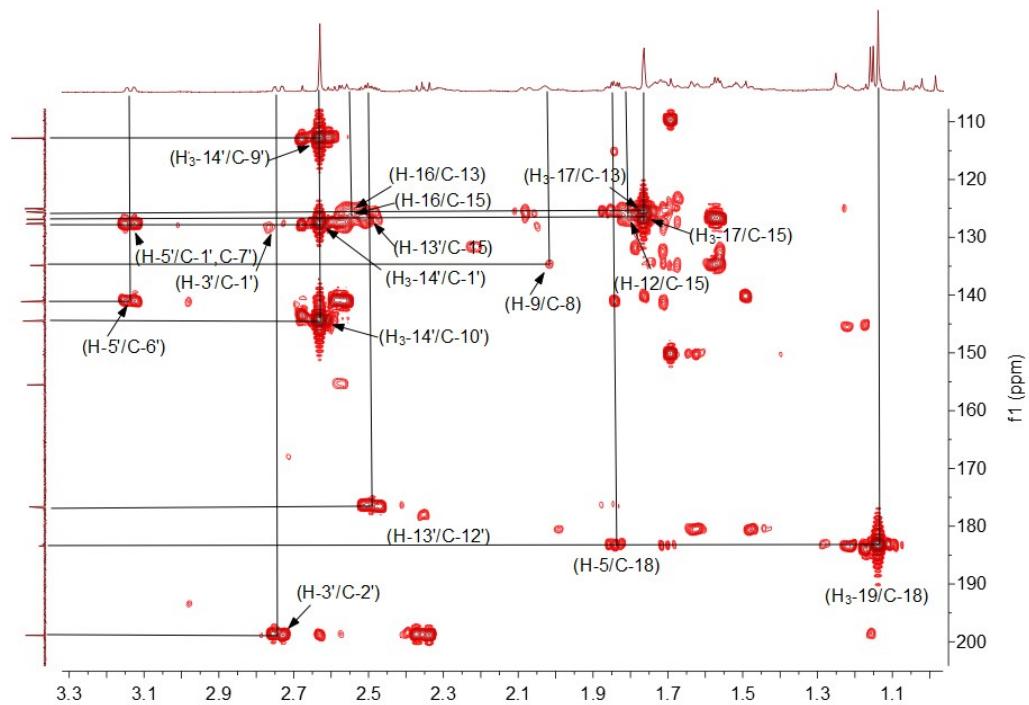


Figure S37. The part of HMBC spectrum of compound **2** in CDCl_3 (1).

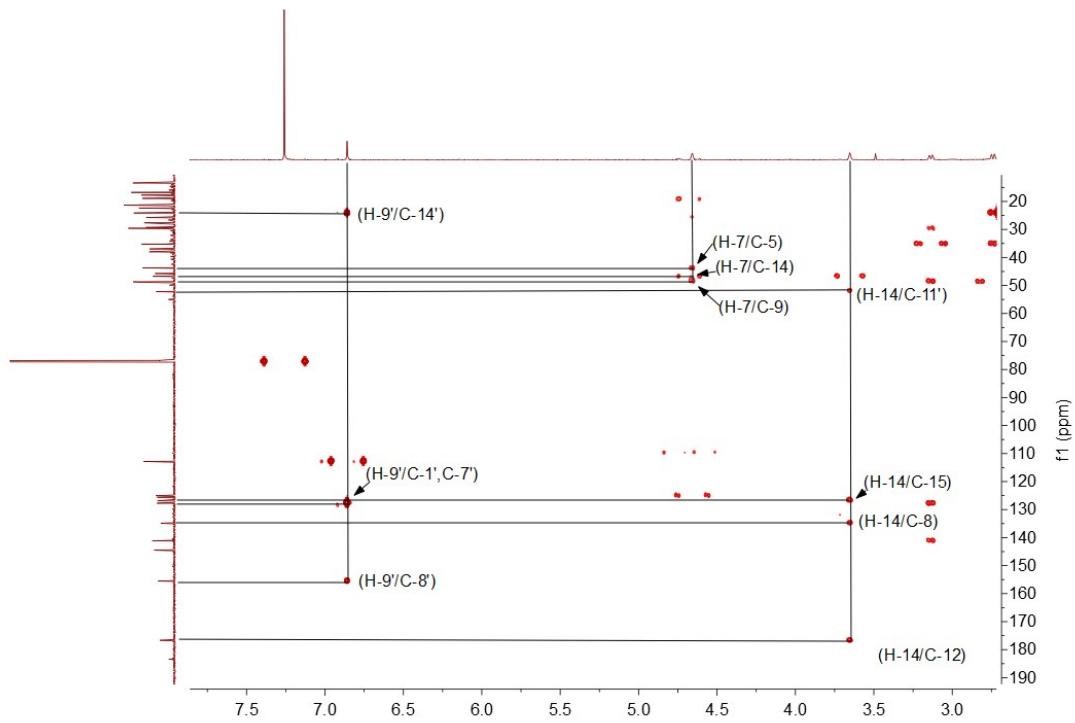


Figure S38. The part of HMBC spectrum of compound **2** in CDCl_3 (2).

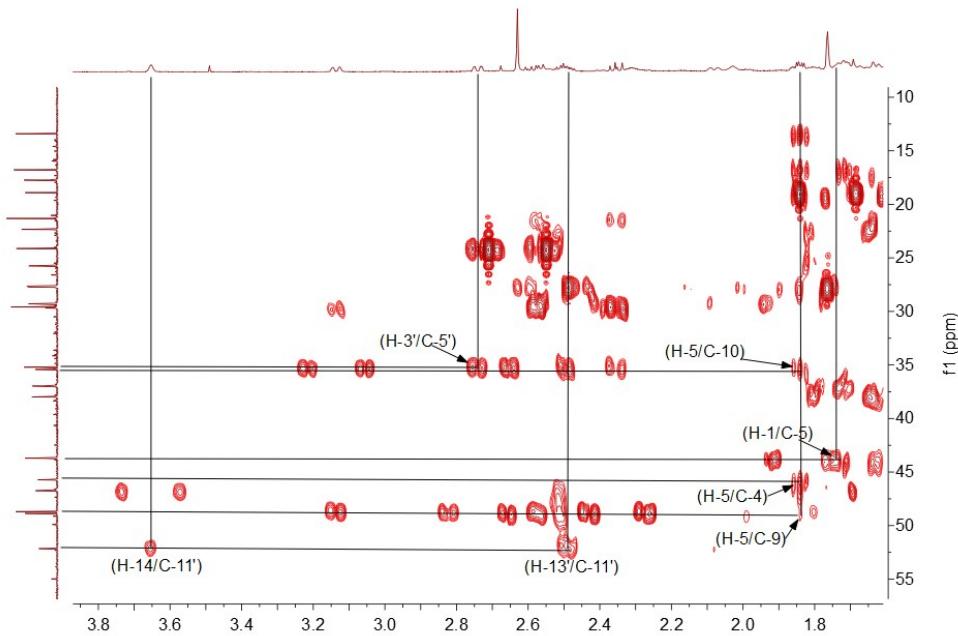


Figure S39. The part of HMBC spectrum of compound **2** in CDCl_3 (3).

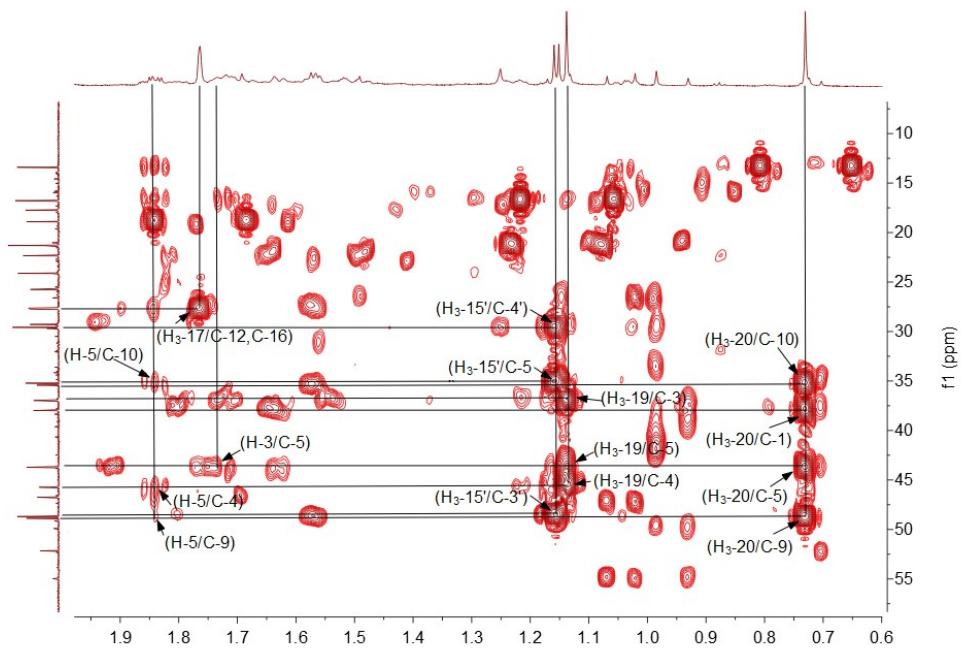


Figure S40. The part of HMBC spectrum of compound **2** in CDCl_3 (4).

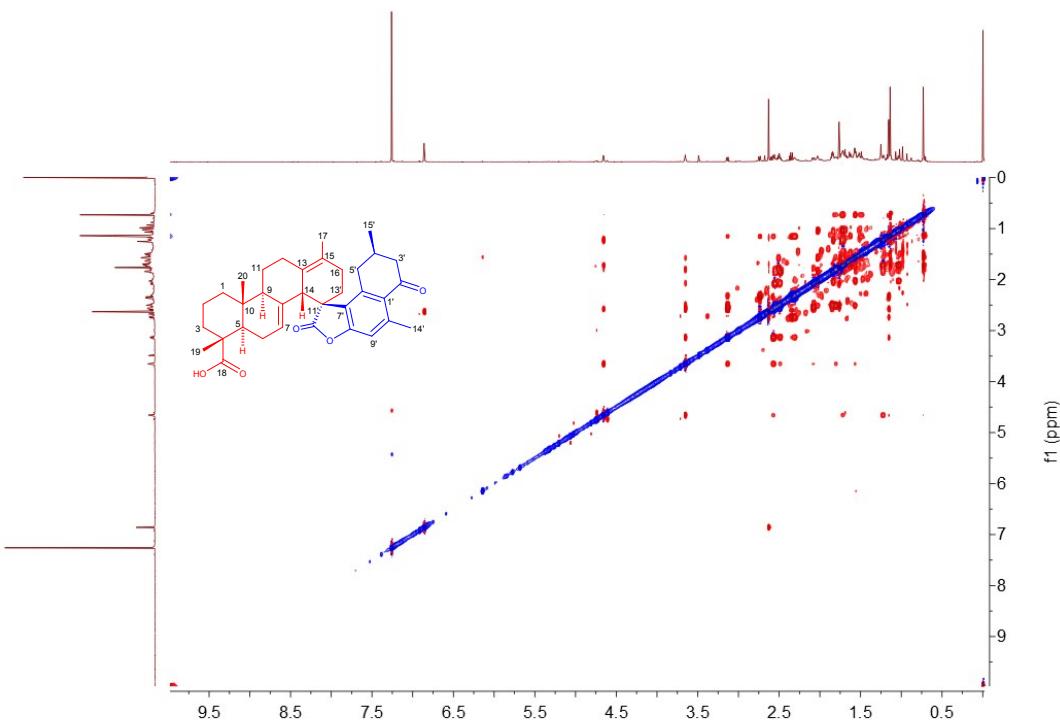


Figure S41. ROESY spectrum of compound **2** in CDCl_3 .

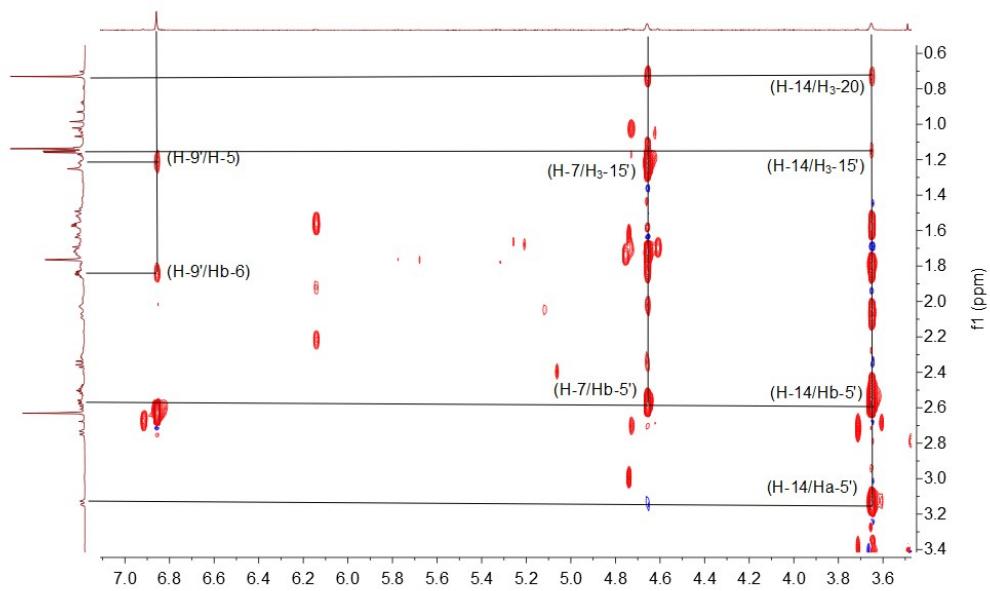


Figure S42. The part of ROESY spectrum of compound **2** in CDCl_3 (1).

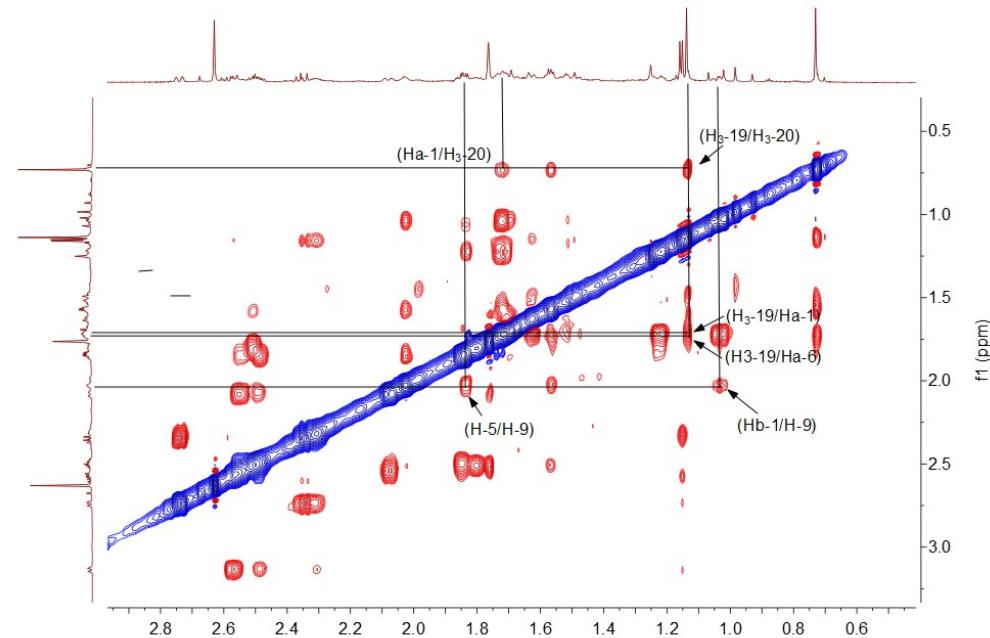
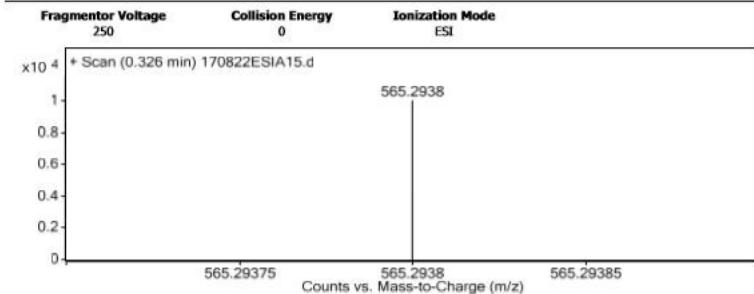


Figure S43. The part of ROESY spectrum of compound **2** in CDCl_3 (2).

Qualitative Analysis Report

| | | | |
|-------------------------------|--------------------------------------------------------|----------------------|----------------------|
| Data Filename | 170822ESIA15.d | Sample Name | QJw-62a |
| Sample Type | Sample | Position | |
| Instrument Name | Agilent G6230 TOF MS | User Name | KIB |
| Acq Method | ESI.m | Acquired Time | 8/22/2017 2:56:29 PM |
| IRM Calibration Status | Success | DA Method | ESI.m |
| Comment | | | |
| Sample Group | | Info. | |
| Acquisition SW Version | 6200 series TOF/6500 series Q-TOF B.05.01 (B5125.2) | | |

User Spectra



Peak List

| <i>m/z</i> | <i>z</i> | Abund | Formula | Ion |
|------------|----------|----------|---------------|-----|
| 252.1577 | 1 | 17356 | | |
| 256.2637 | 1 | 7563.25 | | |
| 266.1729 | 1 | 19038.55 | | |
| 274.2748 | 1 | 18567.64 | | |
| 318.3015 | 1 | 17317.53 | | |
| 340.2822 | 1 | 9012.65 | | |
| 362.3273 | 1 | 7766.96 | | |
| 384.3097 | 1 | 16316.96 | | |
| 428.3361 | 1 | 13562.52 | | |
| 565.2938 | 1 | 9991.42 | C35 H42 Na O5 | M+ |

Formula Calculator Element Limits

| Element | Min | Max |
|---------|-----|-----|
| C | 0 | 200 |
| H | 0 | 400 |
| O | 0 | 9 |
| Na | 1 | 1 |

Formula Calculator Results

| Formula | Calculated Mass | Mz | Diff.(mDa) | Diff. (ppm) | DBE |
|---------------|-----------------|----------|------------|-------------|------|
| C35 H42 Na O5 | 565.2930 | 565.2938 | -0.8 | 1.4 | 14.5 |

--- End Of Report ---

Figure S44. HRESIMS of compound 2.

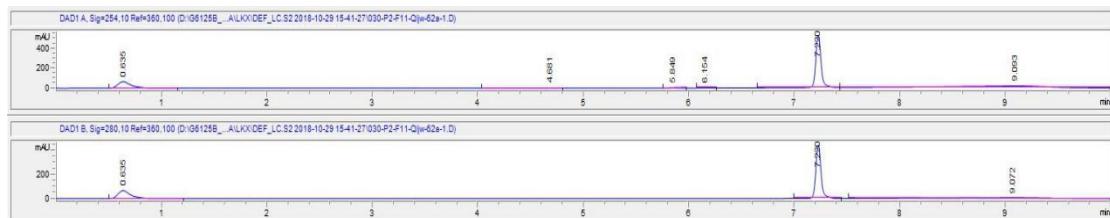


Figure S45. HPLC chromatogram of compound 2.

(Mobile phase: aqueous AcCN, 10%-100% within 10 min, flow rate 0.25 mL/min)

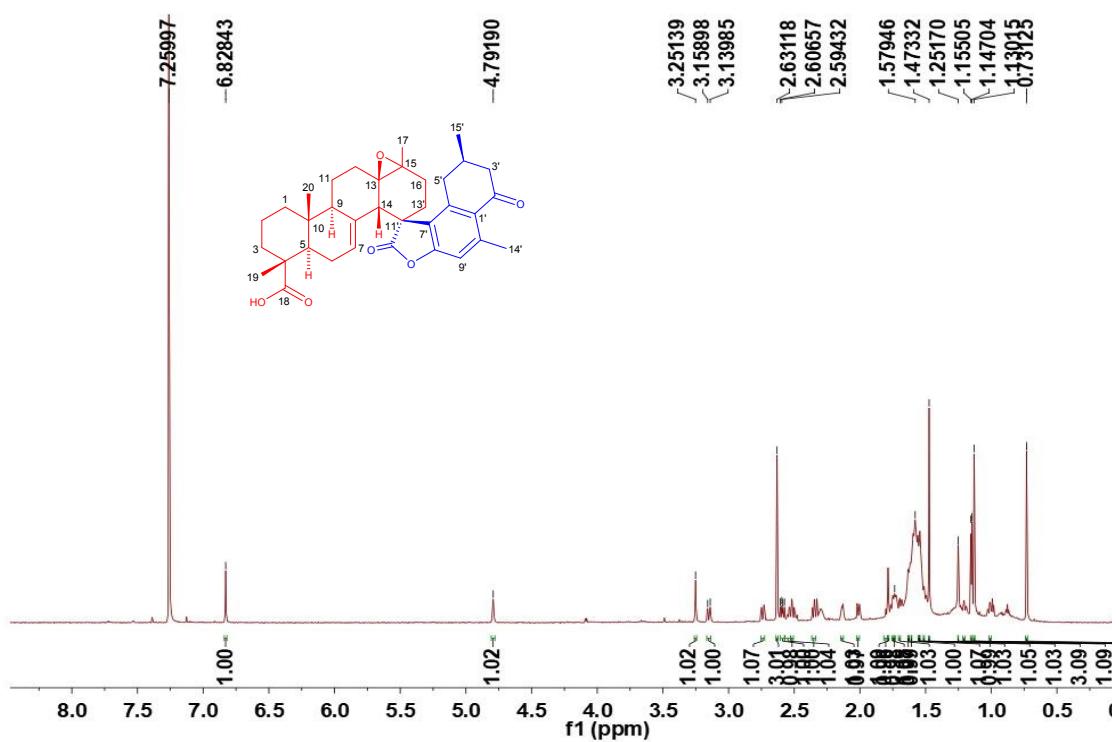


Figure S46. ^1H NMR (800 MHz) spectrum of compound **3** in CDCl_3 .

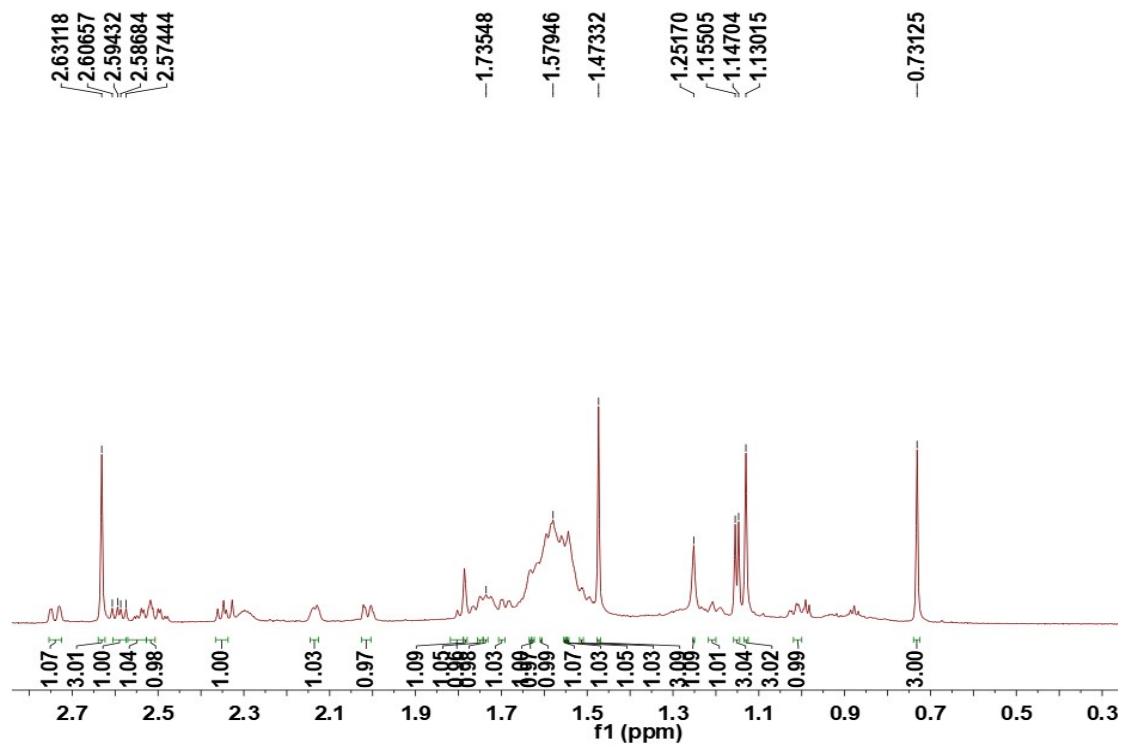


Figure S47. The part of ^1H NMR (800 MHz) spectrum of compound **3** in CDCl_3 .

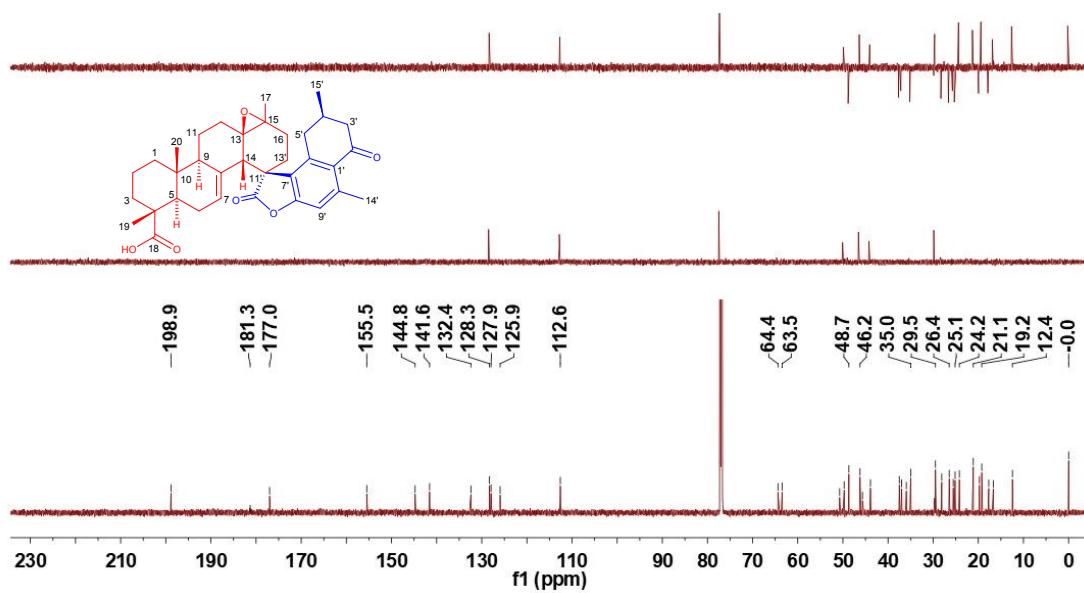


Figure S48. ^{13}C NMR (200 MHz) and DEPT spectra of compound 3 in CDCl_3 .

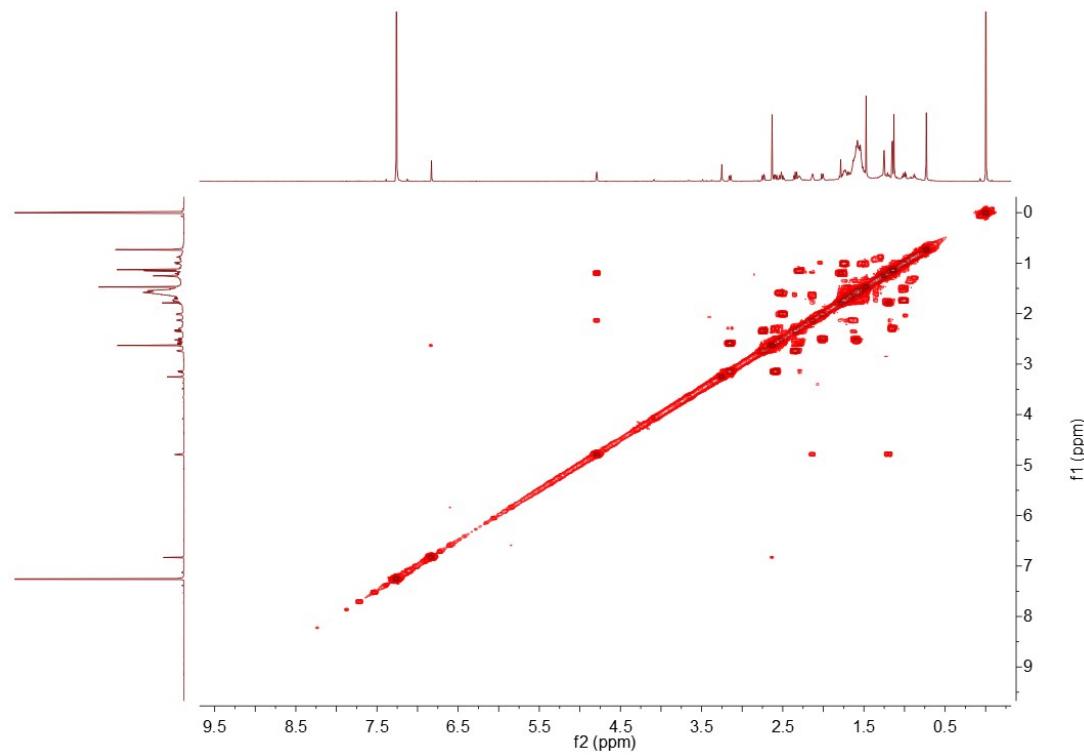


Figure S49. ^1H - ^1H COSY spectrum of compound 3 in CDCl_3 .

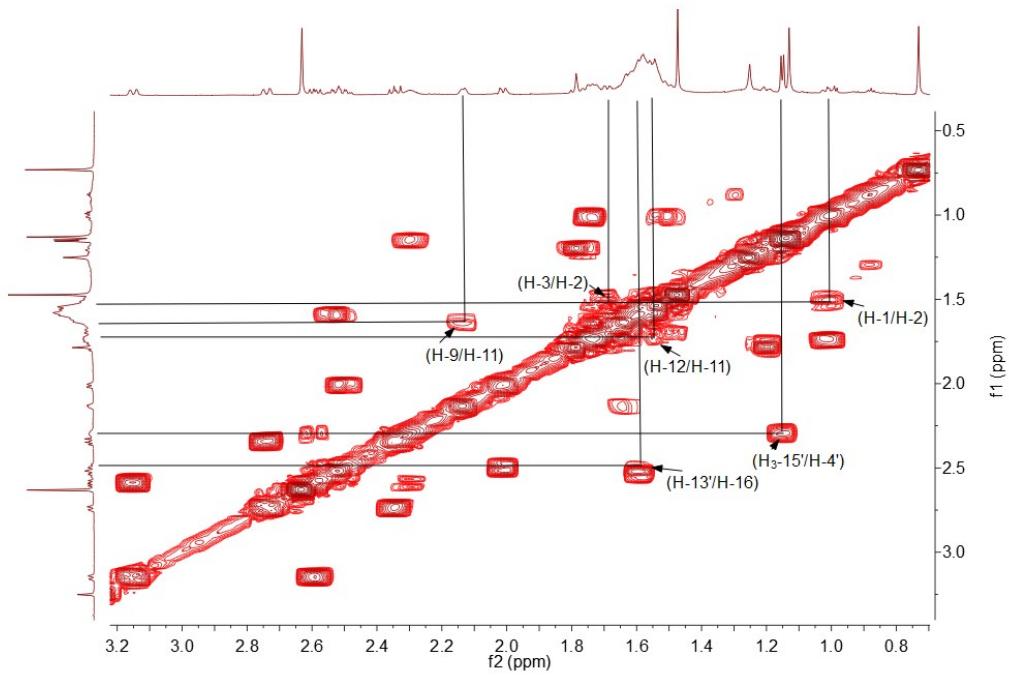


Figure S50. The part of ^1H - ^1H COSY spectrum of compound **3** in CDCl_3 (1).

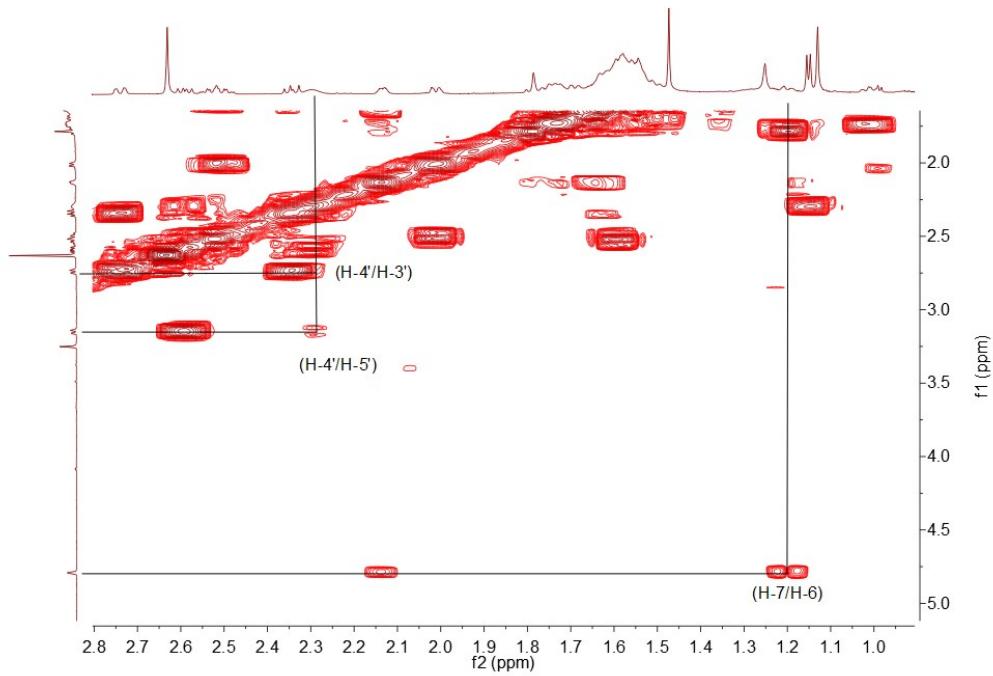


Figure S51. The part of ^1H - ^1H COSY spectrum of compound **3** in CDCl_3 (2).

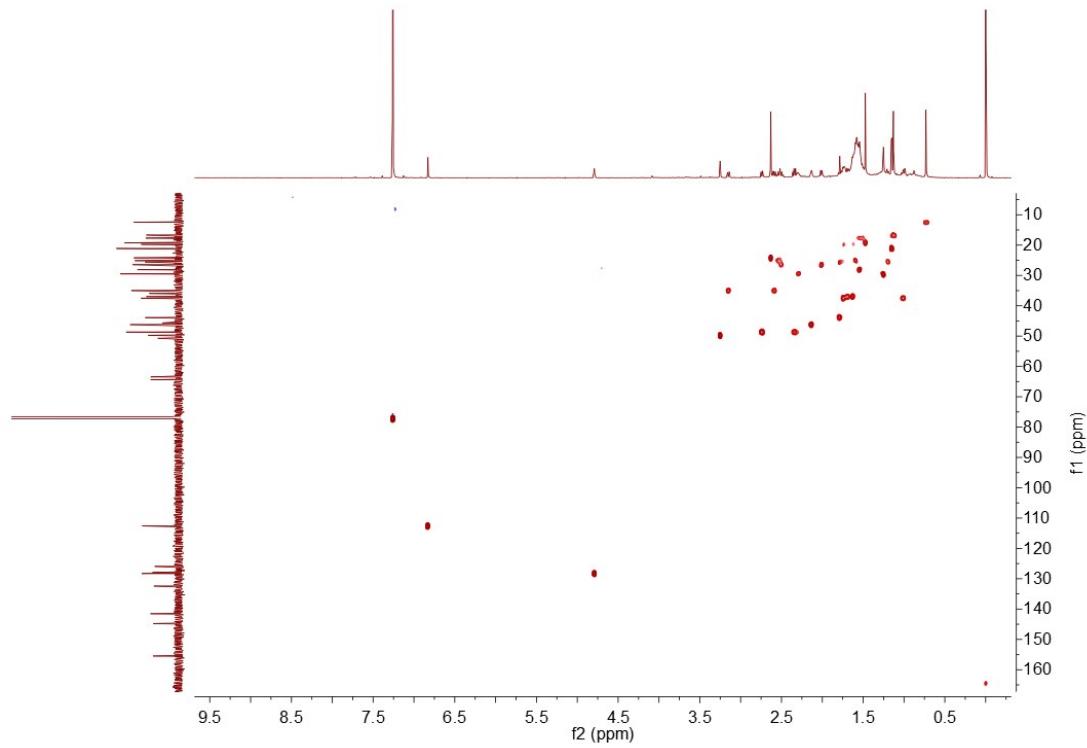


Figure S52. HSQC spectrum of compound **3** in CDCl_3 .

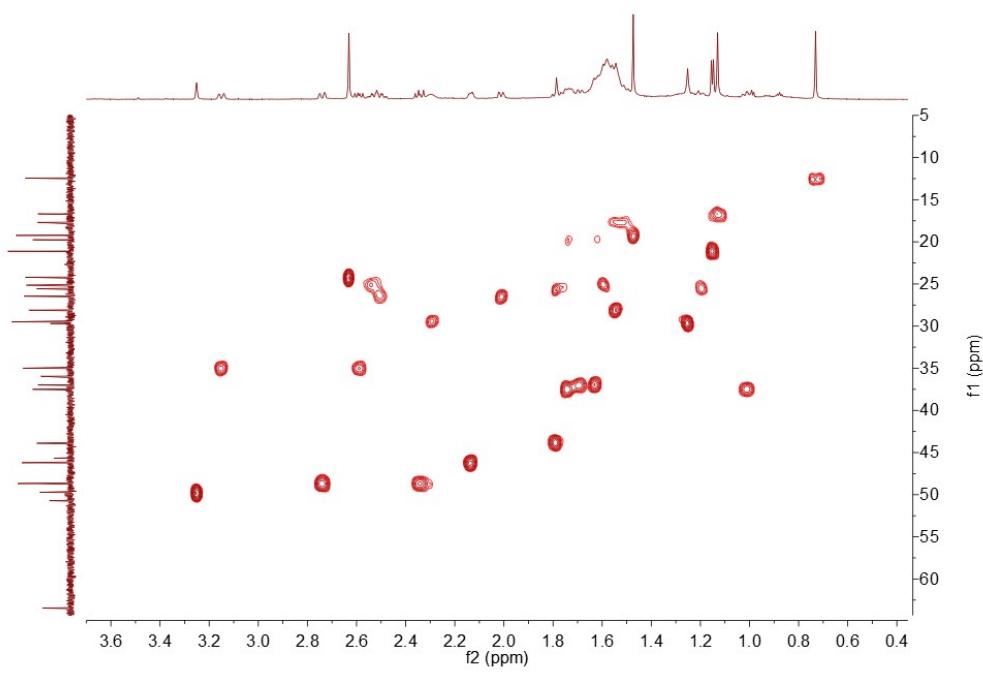


Figure S53. The part of HSQC spectrum of compound **3** in CDCl_3 .

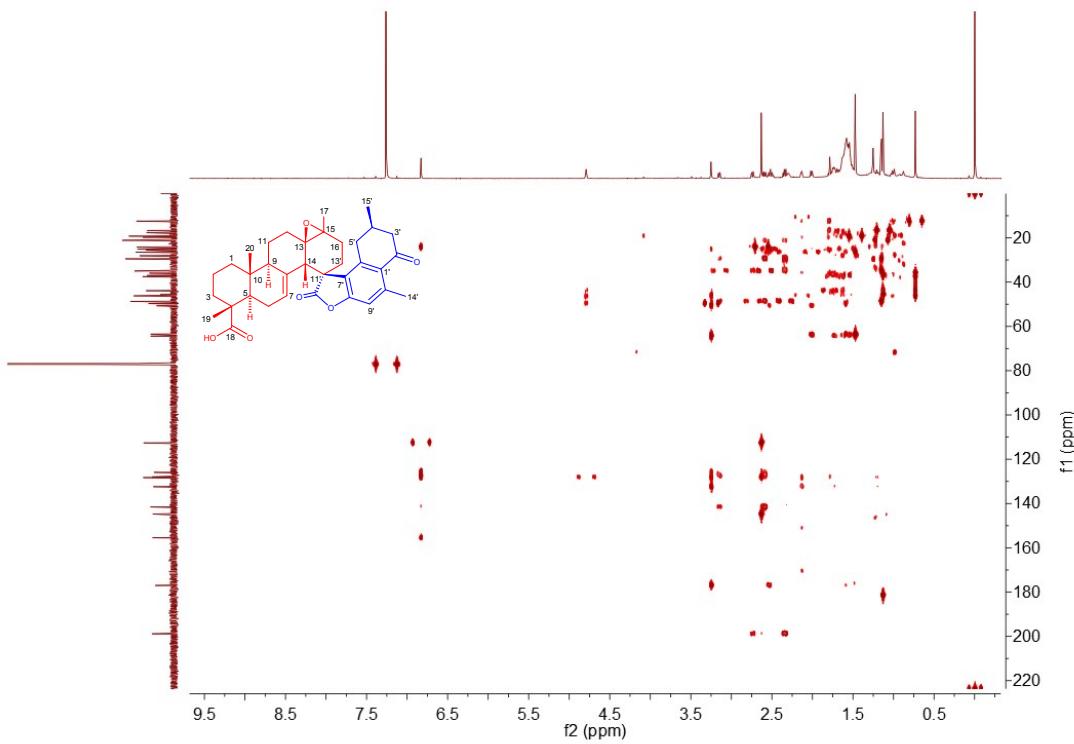


Figure S54. HMBC spectrum of compound **3** in CDCl_3 .

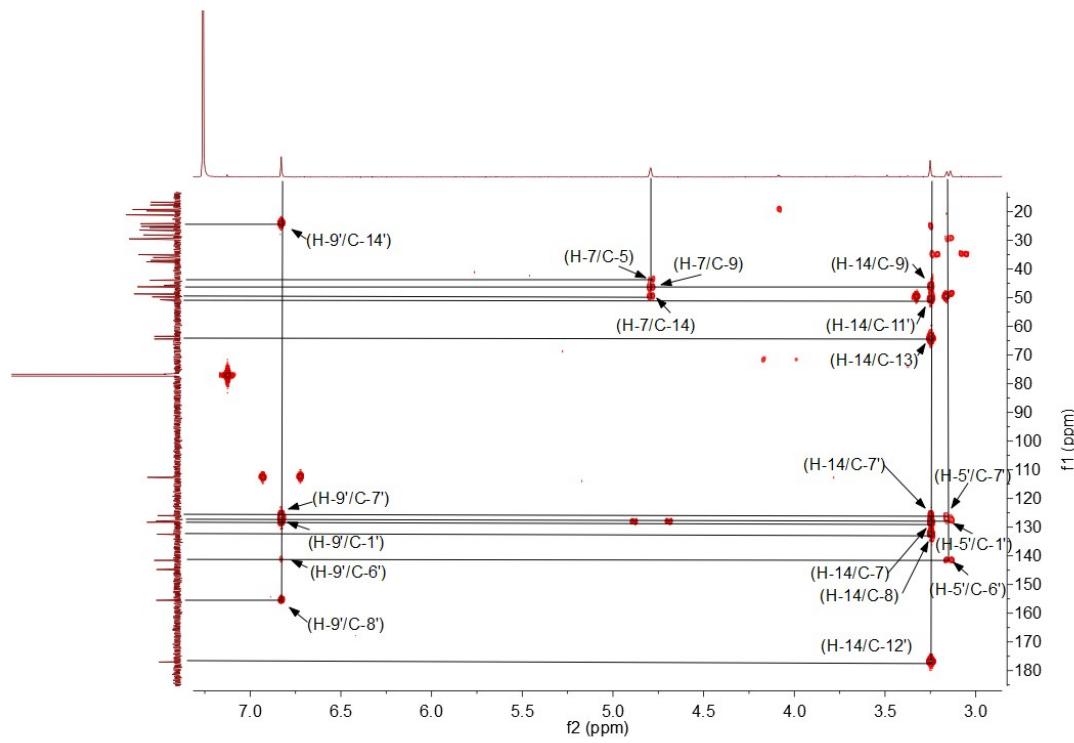


Figure S55. The part of HMBC spectrum of compound **3** in CDCl_3 (1).

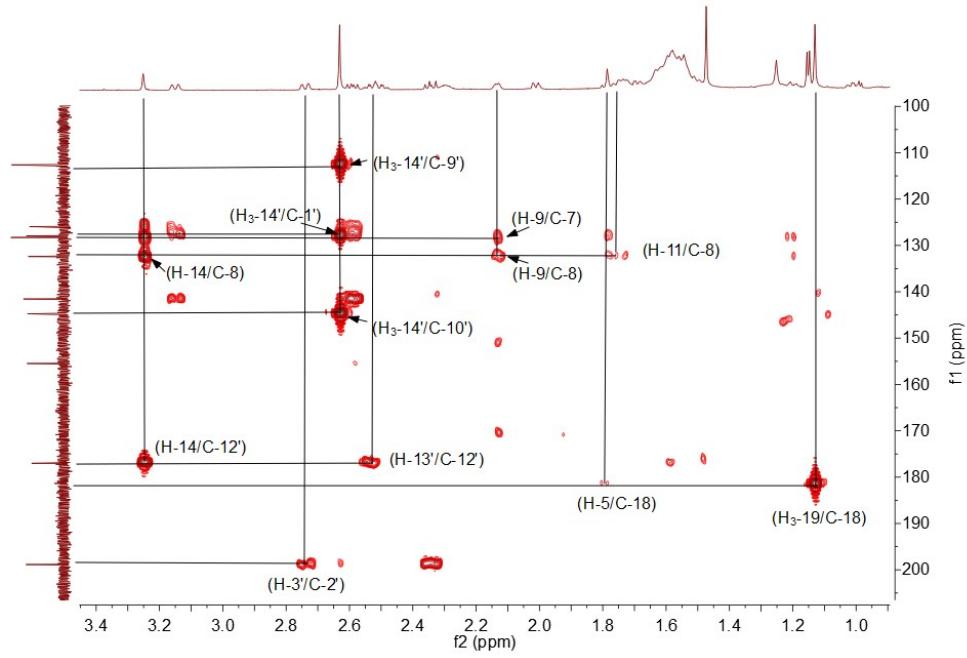


Figure S56. The part of HMBC spectrum of compound **3** in CDCl_3 (2).

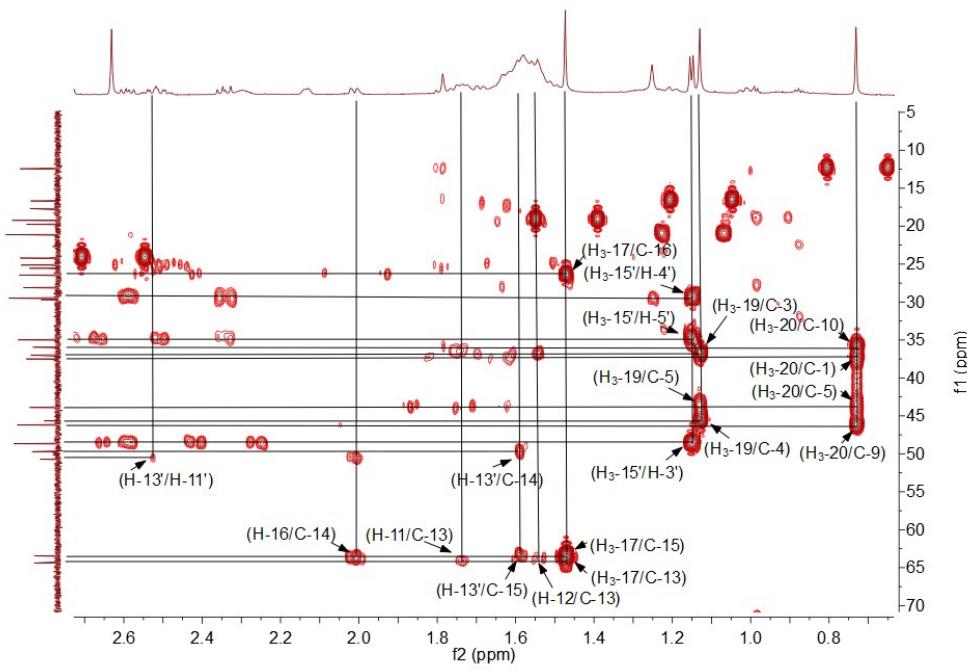


Figure S57. The part of HMBC spectrum of compound **3** in CDCl_3 (3).

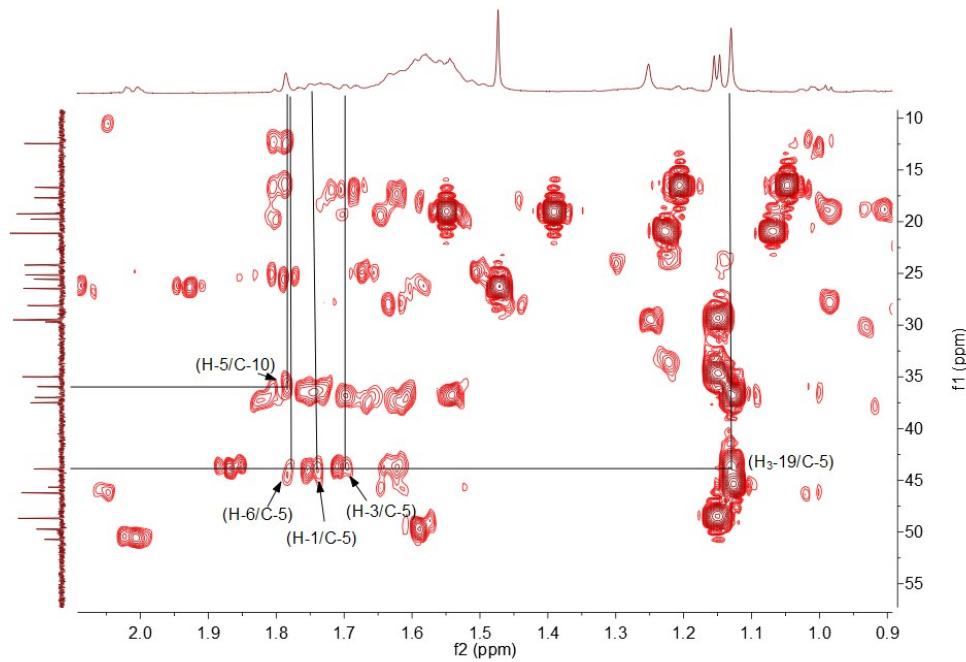


Figure S58. The part of HMBC spectrum of compound **3** in CDCl_3 (**3**).

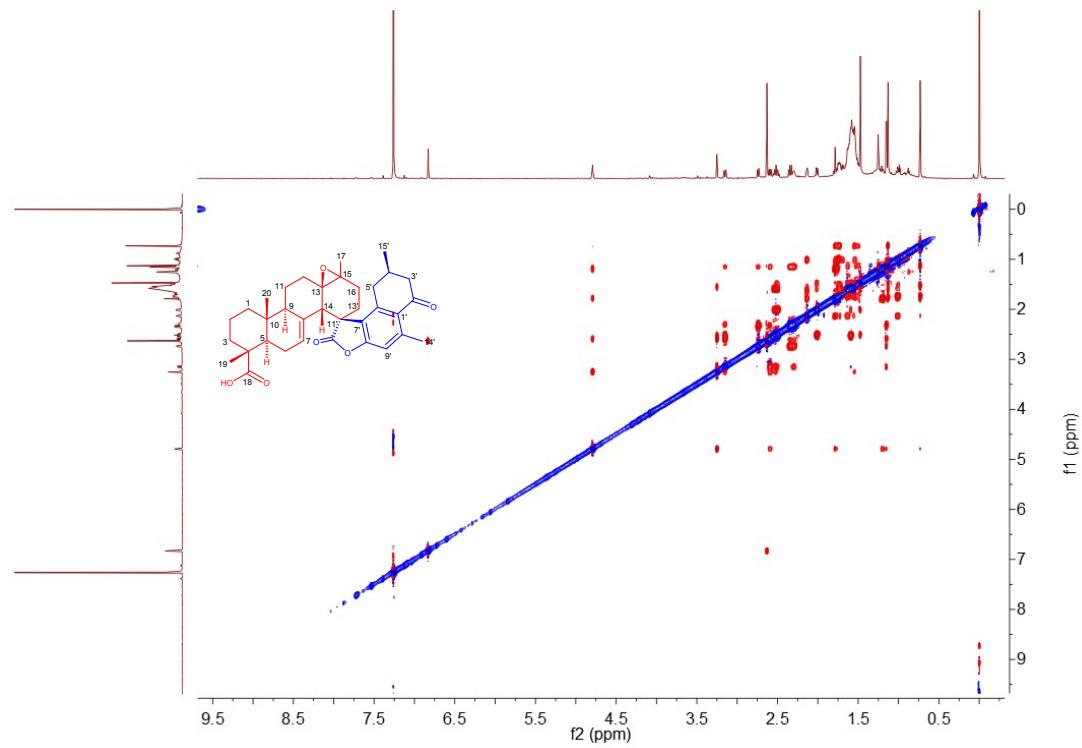


Figure S59. ROESY spectrum of compound **3** in CDCl_3 .

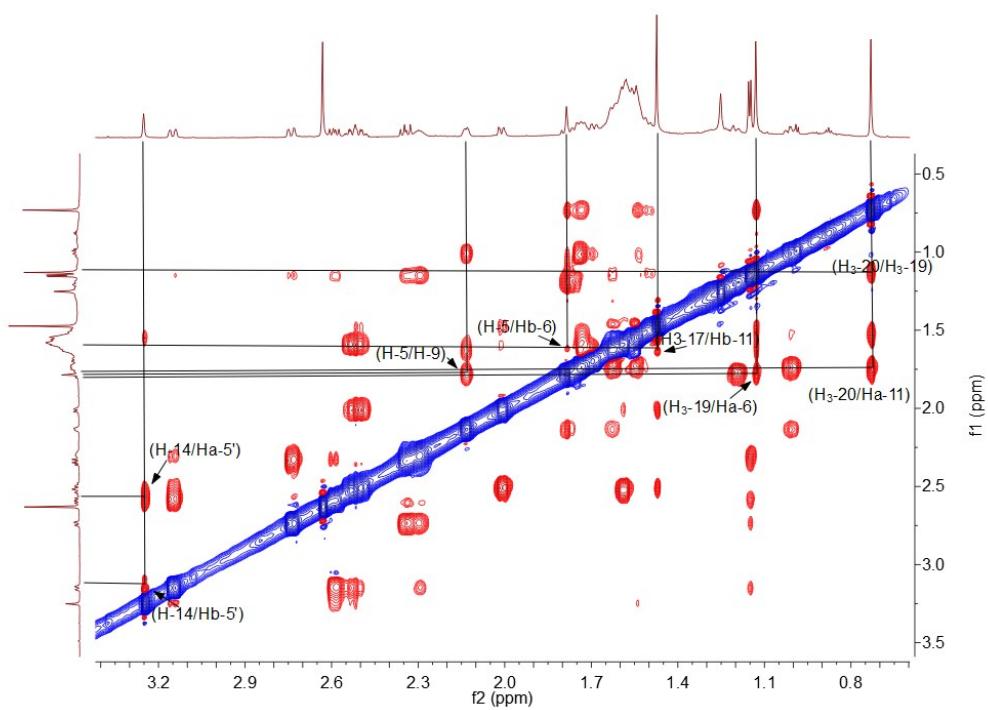


Figure S60. The part of ROESY spectrum of compound **3** in CDCl_3 (1).

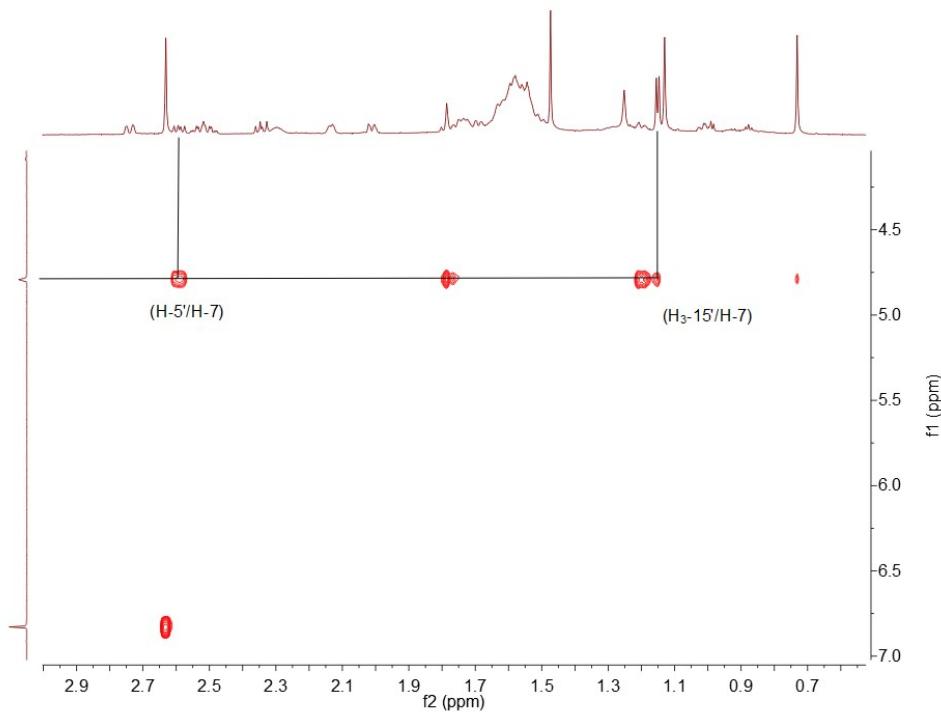


Figure S61. The part of ROESY spectrum of compound **3** in CDCl_3 (2).

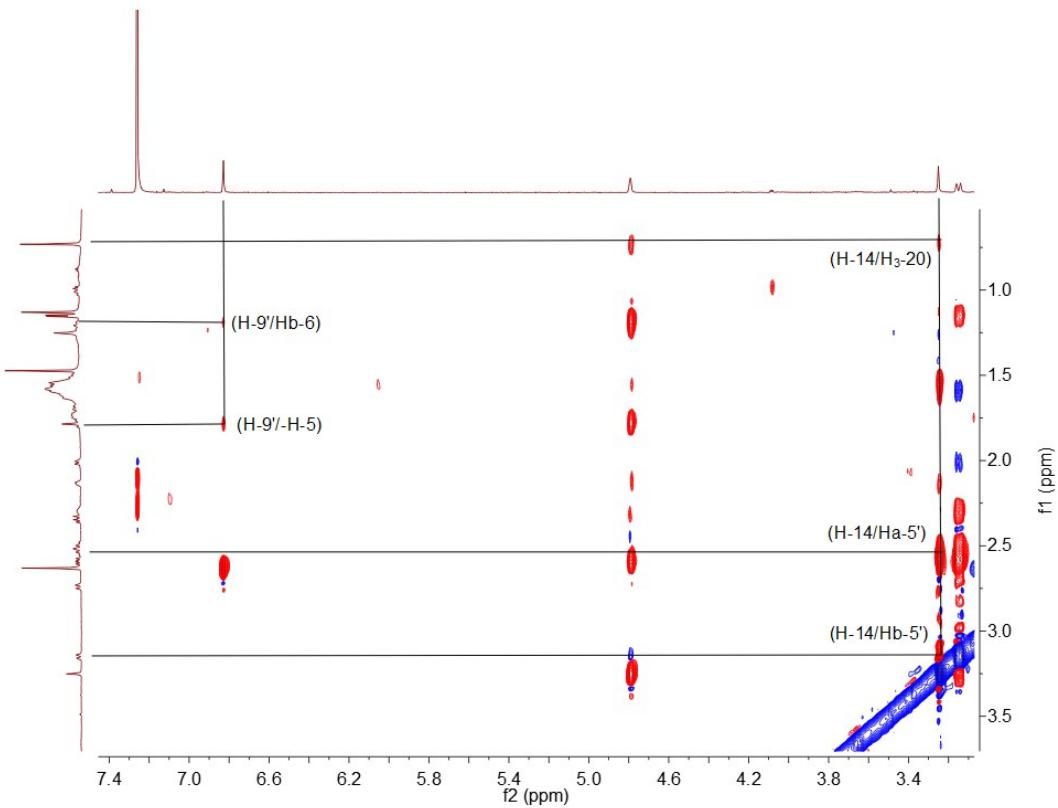
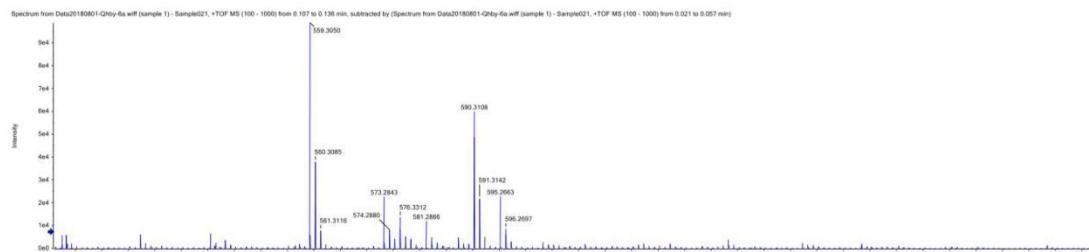


Figure S62. The part of ROESY spectrum of compound **3** in CDCl_3 (3).



$[\text{M}+\text{H}]^+$ m/z 559.3050

| Hit | Formula | m/z | RDB | ppm |
|-----|------------------------------------------------|----------|------|------|
| 1 | C ₃₅ H ₄₃ O ₆ | 559.3054 | 15.0 | -0.7 |

Elements from ~ to C₆₀H₁₂₀O₆

Mass tolerance 5ppm

Figure S63. HRESIMS of compound **3**.

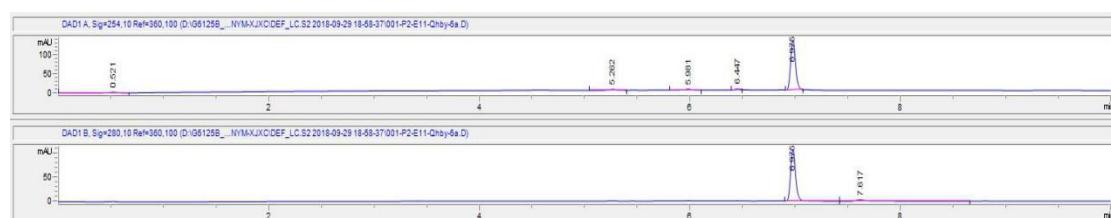


Figure S64. HPLC chromatogram of compound **3**.

(Mobile phase: aqueous AcCN, 10%-100% within 10 min, flow rate 0.25 mL/min)

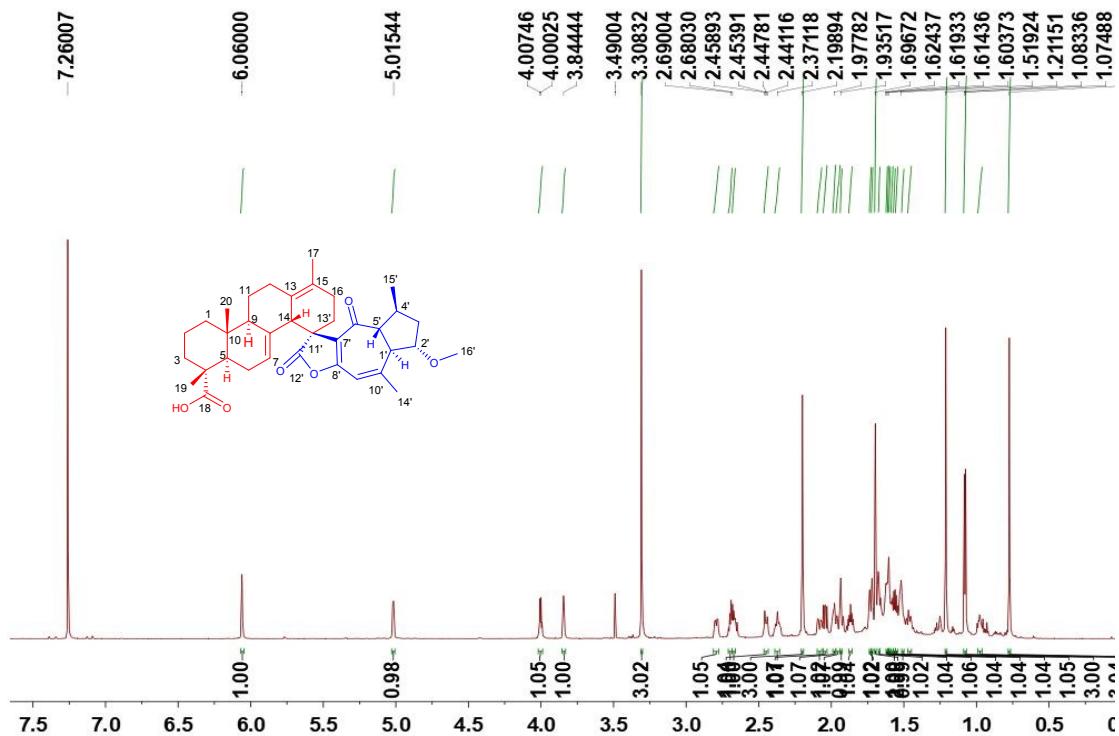


Figure S65. ^1H NMR (800 MHz) spectrum of compound **4** in CDCl_3 .

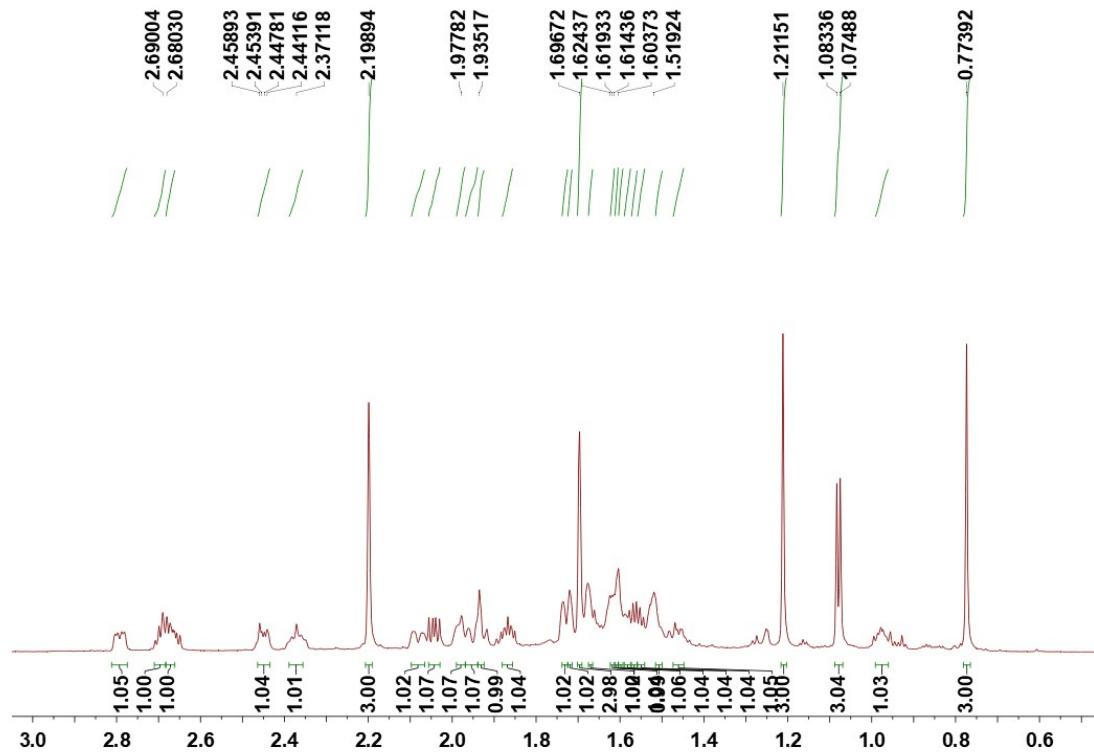


Figure S66. ^1H NMR (800 MHz) spectrum of compound **4** in CDCl_3 .

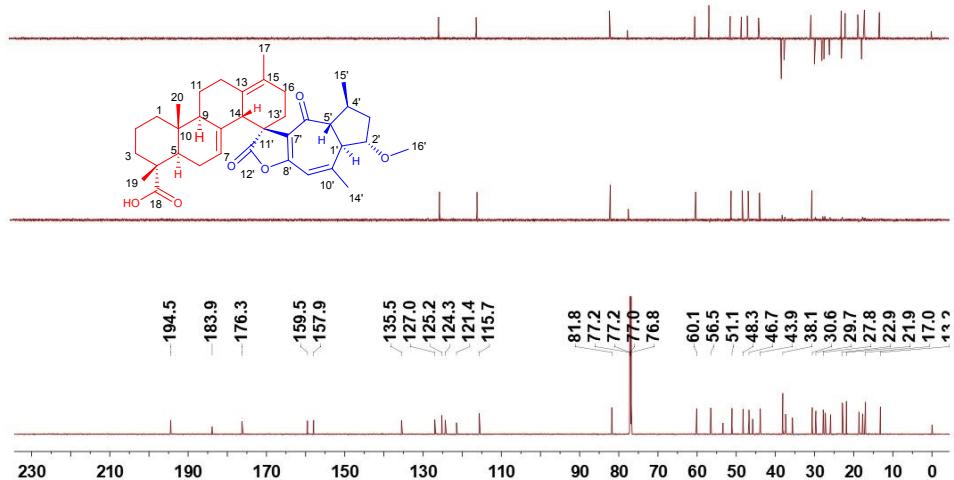


Figure S67. ^{13}C NMR (200 MHz) and DEPT spectra of compound 4 in CDCl_3 .

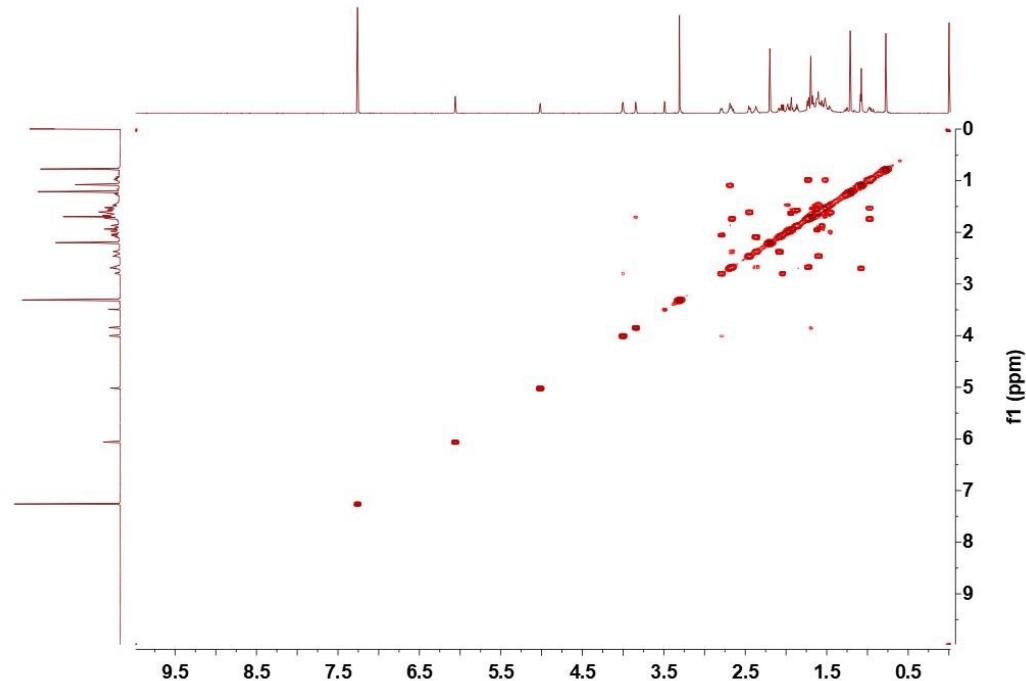


Figure S68. ^1H - ^1H COSY spectrum of compound 4 in CDCl_3 .

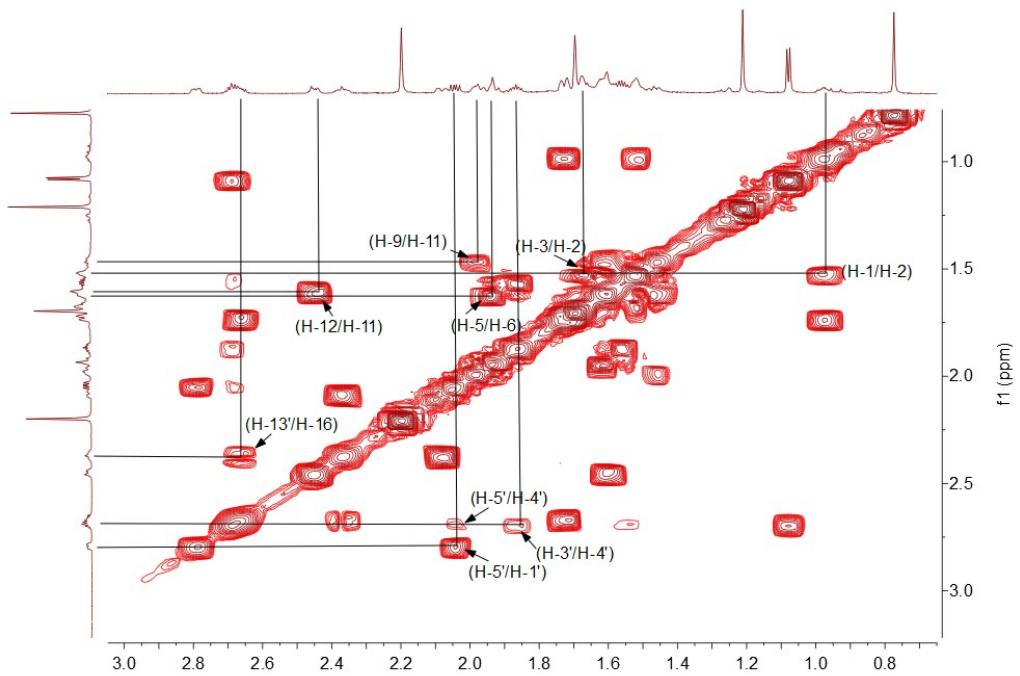


Figure S69. The part of ^1H - ^1H COSY spectrum of compound **4** in CDCl_3 (1).

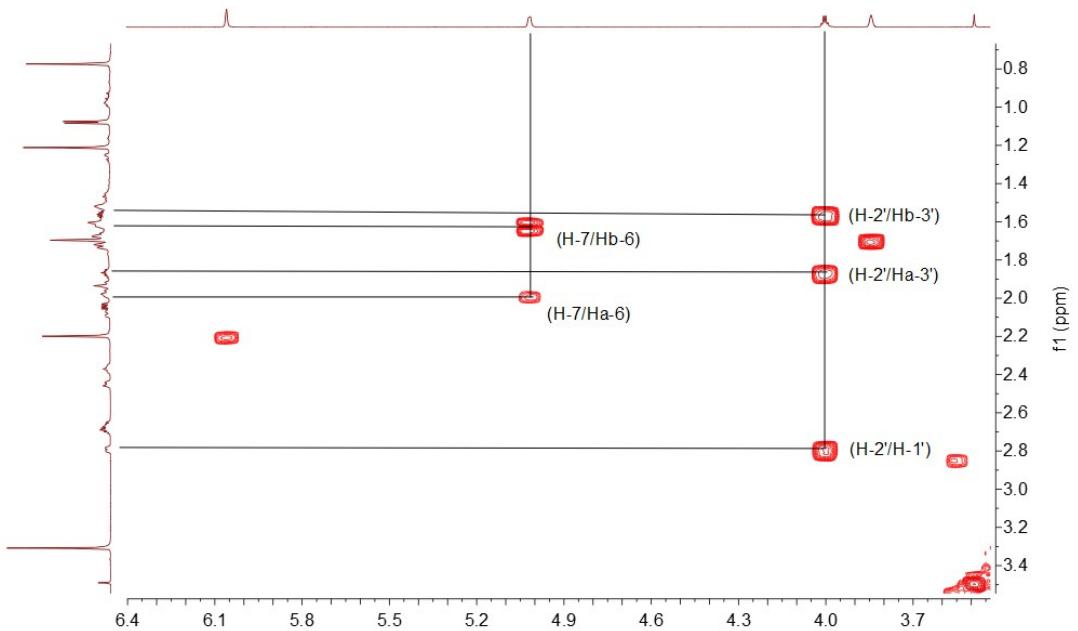


Figure S70. The part of ^1H - ^1H COSY spectrum of compound **4** in CDCl_3 (2).

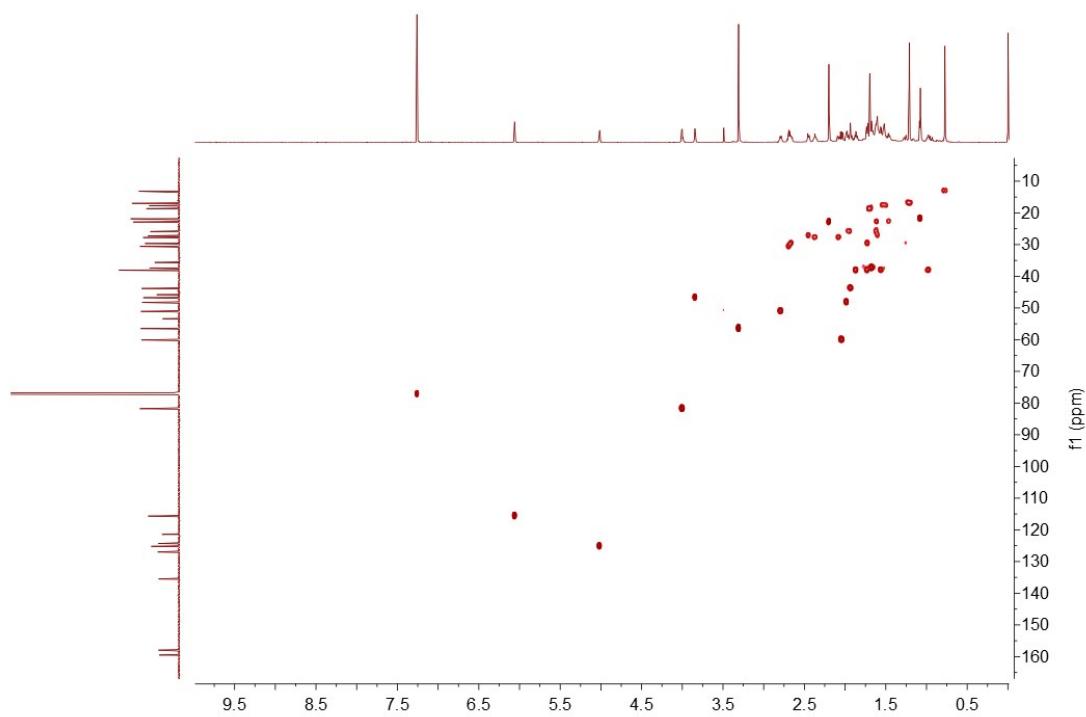


Figure S71. HSQC spectrum of compound **4** in CDCl_3 .

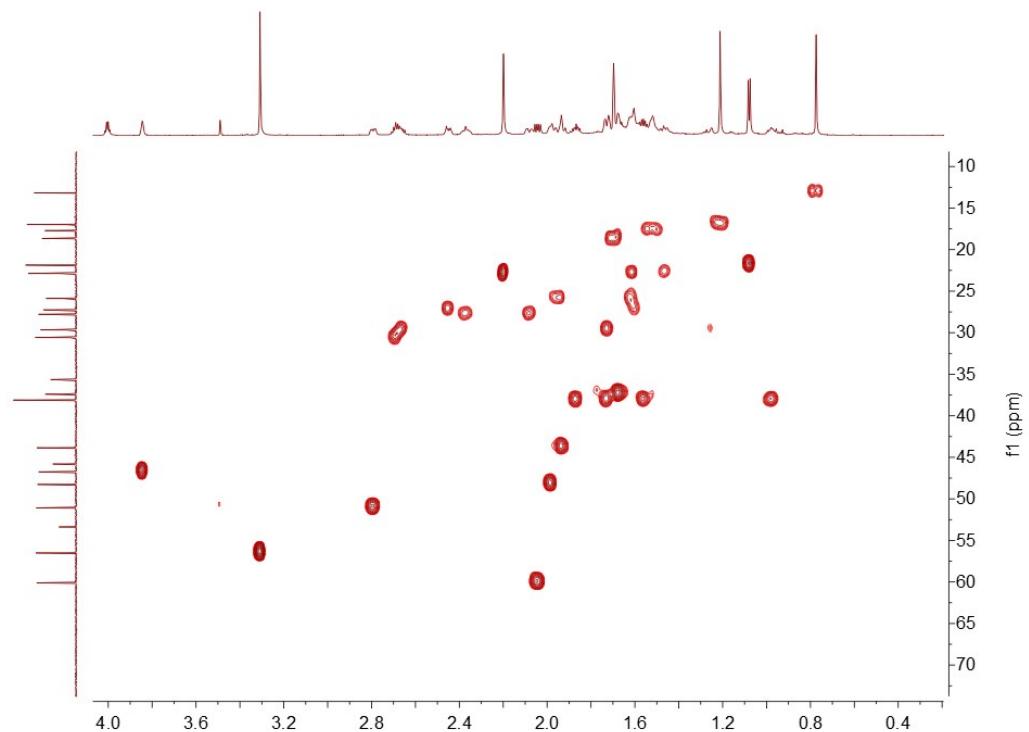


Figure S72. The part of HSQC spectrum of compound **4** in CDCl_3 .

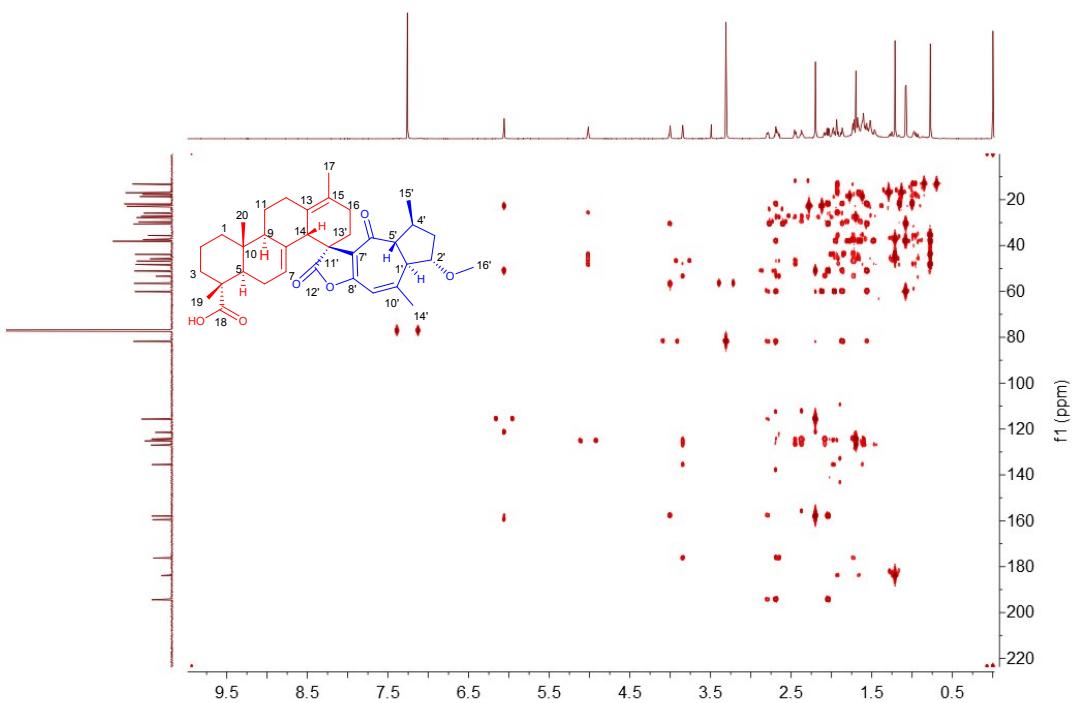


Figure S73. HMBC spectrum of compound **4** in CDCl_3 .

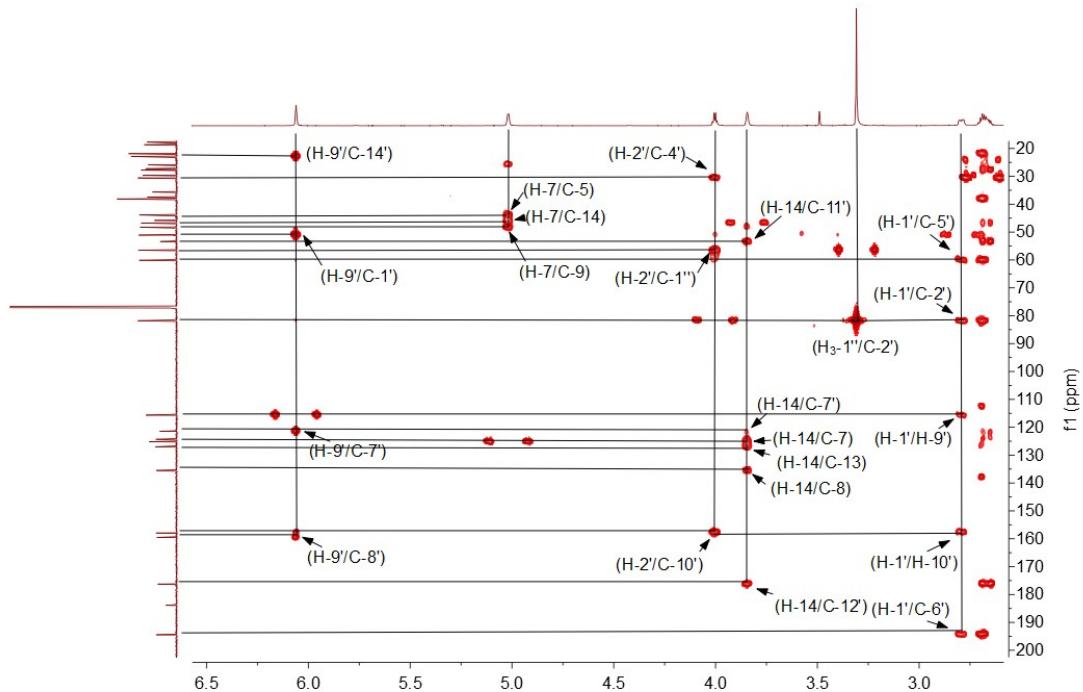


Figure S74. The part of HMBC spectrum of compound **4** in CDCl_3 (1).

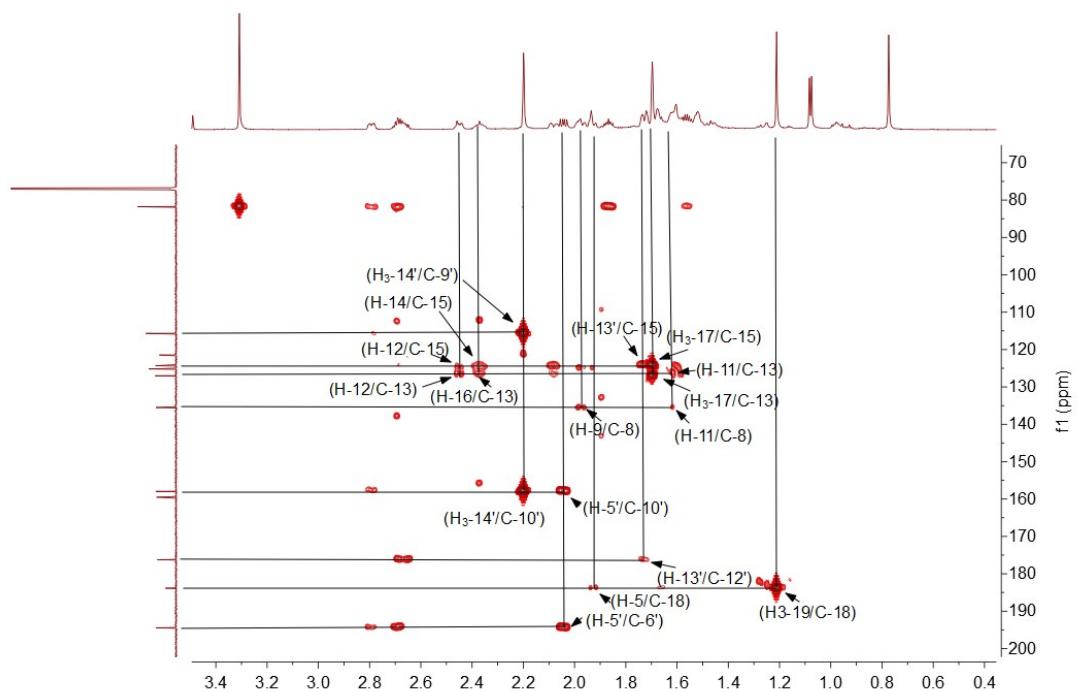


Figure S75. The part of HMBC spectrum of compound **4** in CDCl_3 (2).

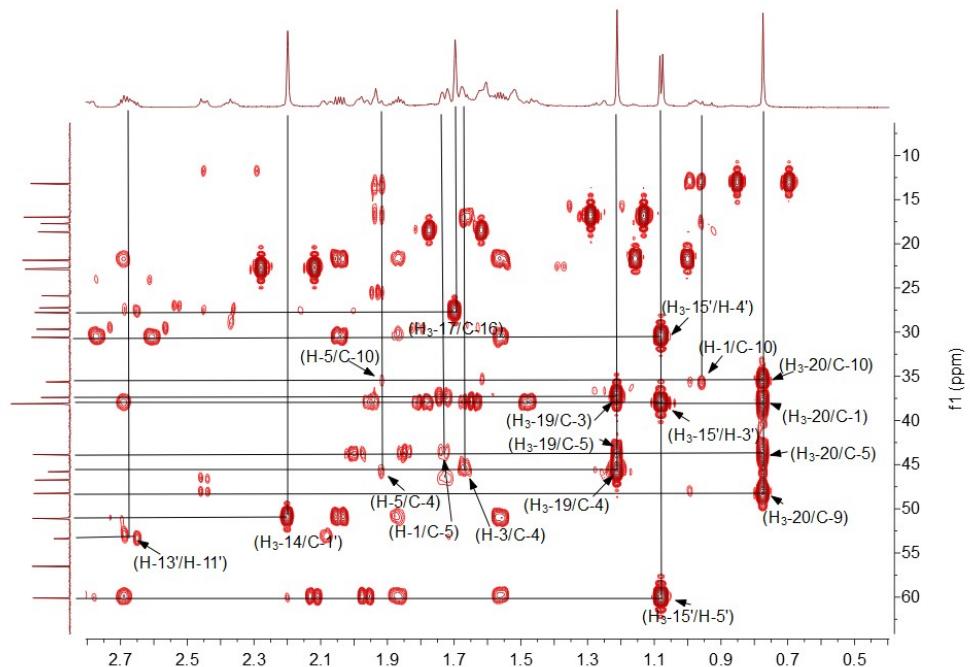


Figure S76. The part of HMBC spectrum of compound **4** in CDCl_3 (3).

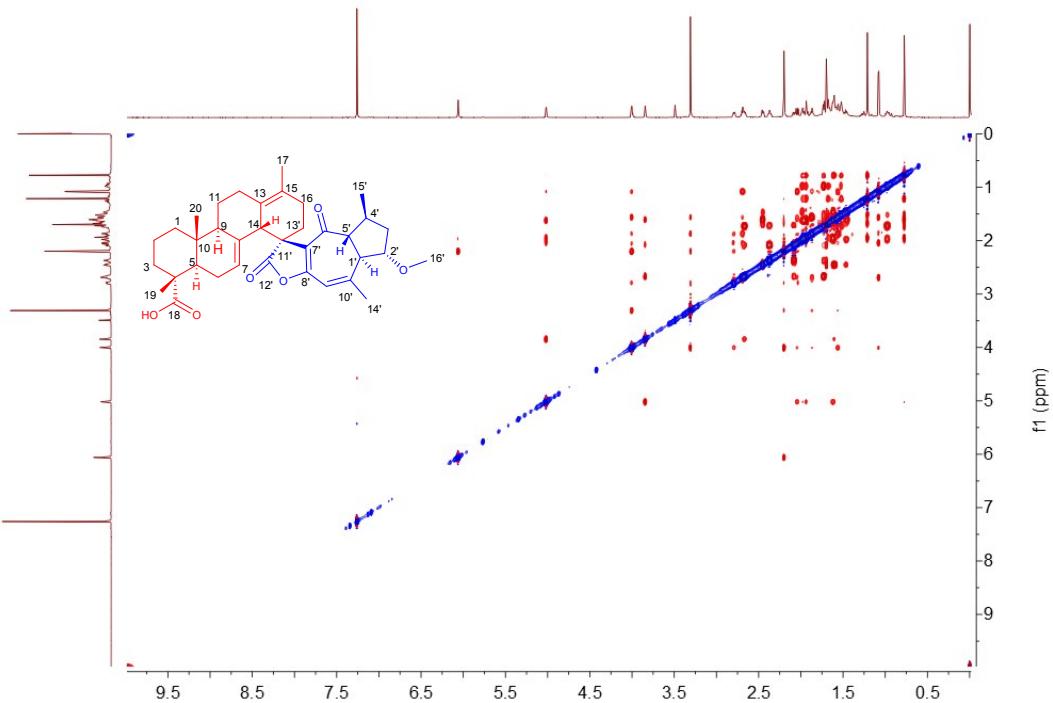


Figure S77. ROESY spectrum of compound **4** in CDCl_3 .

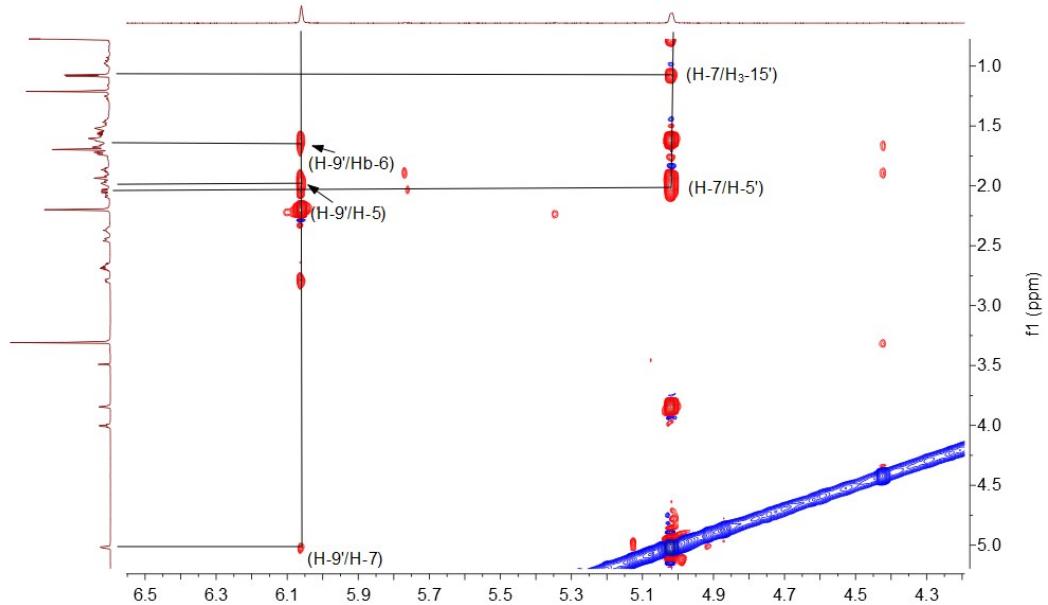


Figure S78. The part of ROESY spectrum of compound **4** in CDCl_3 (1).

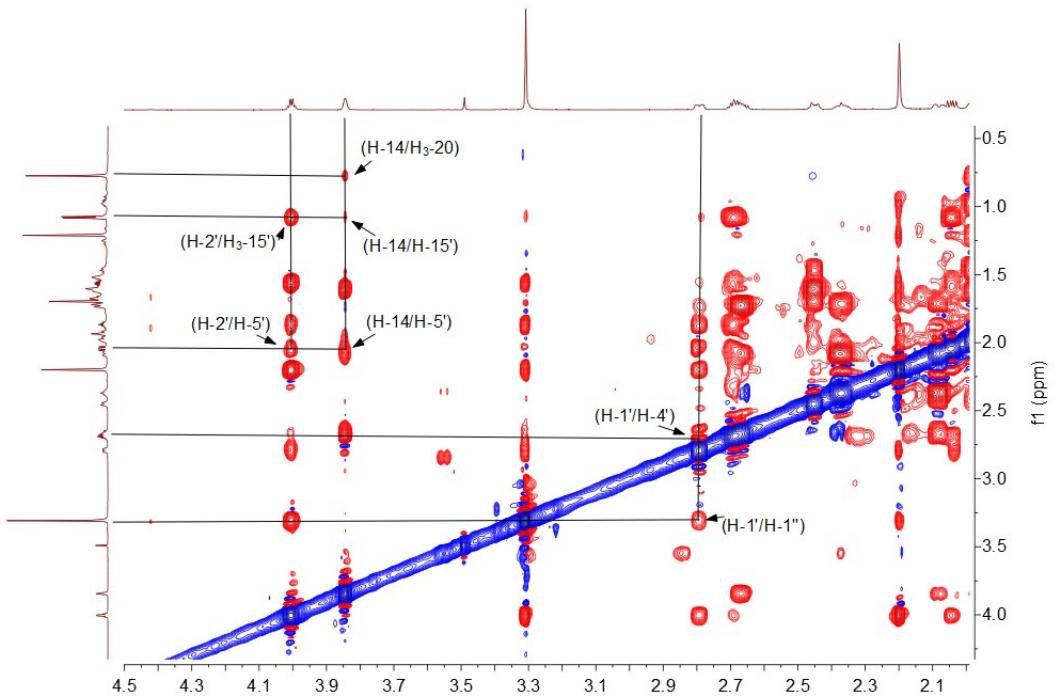


Figure S79. The part of ROESY spectrum of compound **4** in CDCl_3 (2).

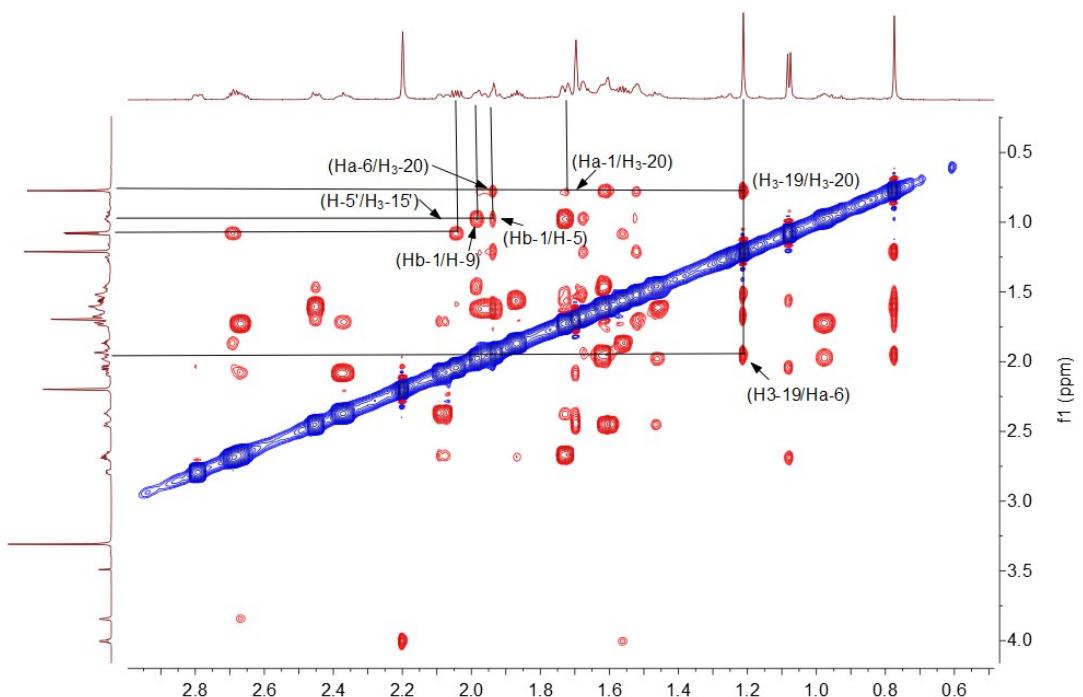
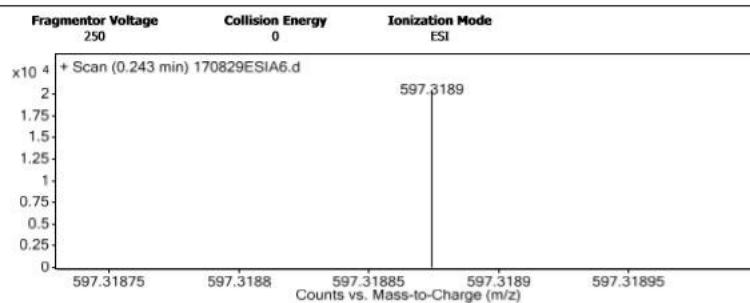


Figure S80. The part of ROESY spectrum of compound **4** in CDCl_3 (3).

Qualitative Analysis Report

| | | | |
|-------------------------------|-----------------------------|----------------------|-----------------------|
| Data Filename | 170829ESIA6.d | Sample Name | qljw-63c |
| Sample Type | Sample | Position | |
| Instrument Name | Agilent G6230 TOF MS | User Name | KIB |
| Acq Method | ESI.m | Acquired Time | 8/29/2017 11:22:26 AM |
| IRM Calibration Status | Success | DA Method | ESI.m |
| Comment | | | |
| Sample Group | Info. | | |
| Acquisition SW | 6200 series TOF/6500 series | | |
| Version | Q-TOF B.05.01 (B5125.2) | | |

User Spectra



Peak List

| m/z | z | Abund | Formula | Ion |
|----------|---|----------|---------------|-----|
| 122.5479 | 2 | 7905.75 | | |
| 166.0623 | 1 | 5976.23 | | |
| 252.1567 | | 4302.95 | | |
| 274.274 | 1 | 16218.55 | | |
| 318.3004 | 1 | 8840.74 | | |
| 575.3364 | 1 | 5245.28 | | |
| 597.3189 | 1 | 20423.11 | C36 H46 Na O6 | M+ |
| 598.3215 | 1 | 6824.93 | C36 H46 Na O6 | M+ |
| 613.308 | 1 | 6282.66 | | |
| 629.3081 | 1 | 8627.95 | | |

Formula Calculator Element Limits

| Element | Min | Max |
|---------|-----|-----|
| C | 0 | 200 |
| H | 0 | 400 |
| O | 2 | 9 |
| Na | 1 | 1 |

Formula Calculator Results

| Formula | CalculatedMass | Mz | Diff.(mDa) | Diff. (ppm) | DBE |
|---------------|----------------|----------|------------|-------------|------|
| C36 H46 Na O6 | 597.3192 | 597.3189 | 0.3 | 0.5 | 13.5 |

--- End Of Report ---

Figure S81. HRESIMS of compound 4.