**Table S1.** The common chemical identifiers of compound **2**.

(chemical structure lookup service (CSLS), https://cactus.nci.nih.gov/)

| **Structure Identifier** | **Representation of the Identifier** |
|---|---|
| Chemical Name | 2-butyl-6-phenyl-4,5-dihydropyridazin-3(2*H*)-one |
| Chemical Formula | $C_{14}H_{18}N_2O$ |
| Molecular Weight | 230.309 |
| CAS Registry Number | 1532529-93-3 |
| Standard InChIKey | WVMAESKYYZHCBP-UHFFFAOYSA-N |
| Standard InChI | 1S/C14H18N2O/c1-2-3-11-16-14(17)10-9-13(15-16)12-7-5-4-6-8-12/h4-8H,2-3,9-11H2,1H3 |
| SMILES | CCCCN1N=C(CCC1=O)c2ccccc2 |
| FICTS | 4D7287724021B36A-FICTS-01-12 |
| FICuS | 4D7287724021B36A-FICuS-01-33 |
| Uuuuu | 4D7287724021B36A-uuuuu-01-E2 |
| Cactvs HASHISY | 4D72877240 21B36A |

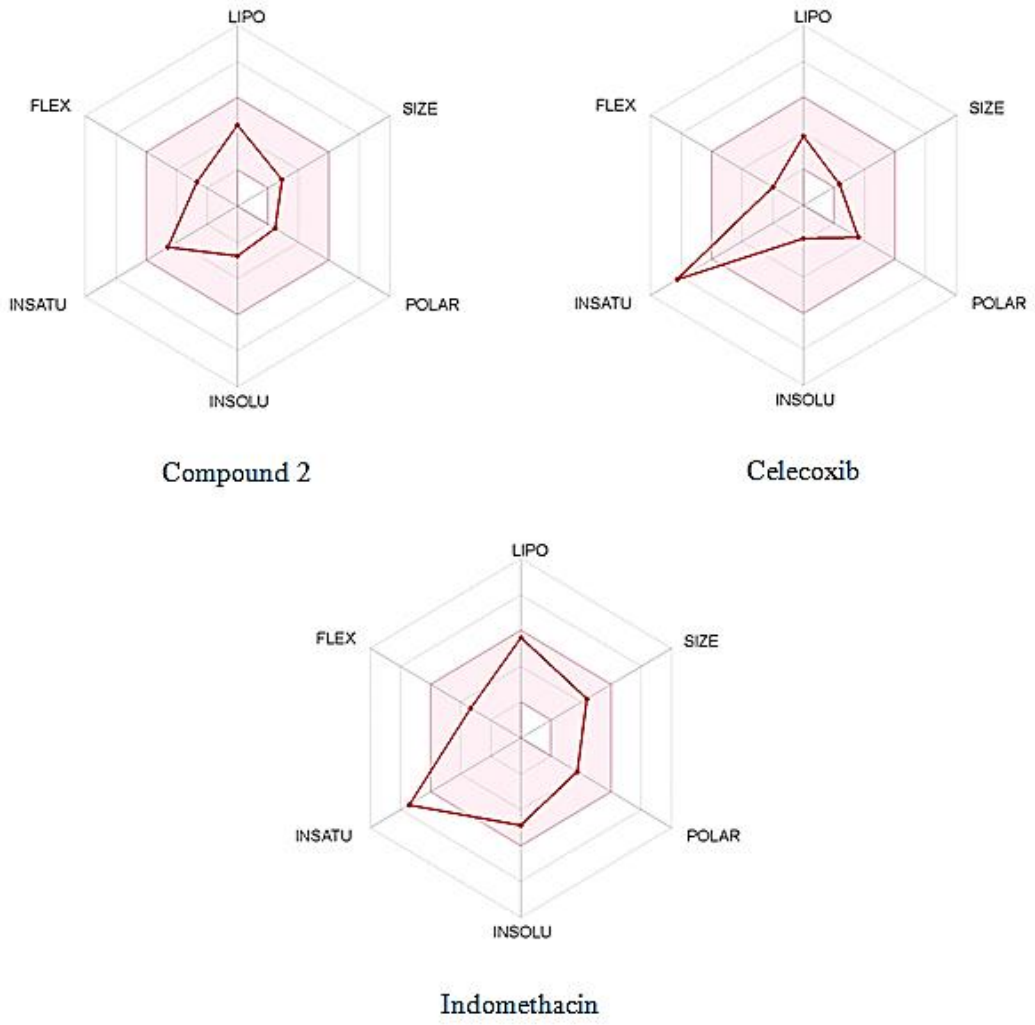


**Figure S1.** The bioavailability radar of compound **2**, celecoxib, and indomethacin.

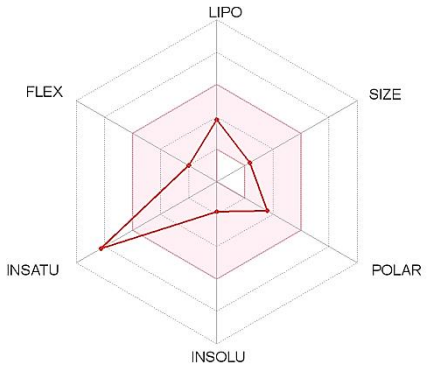


**Figure S1-1:** The bioavailability radar of aspirin

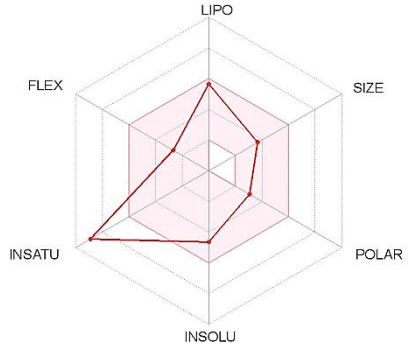


**Figure S1-2:** The bioavailability radar of diclofenac

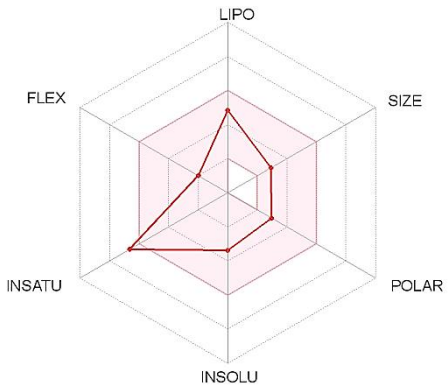


**Figure S1-3:** The bioavailability radar of naproxen

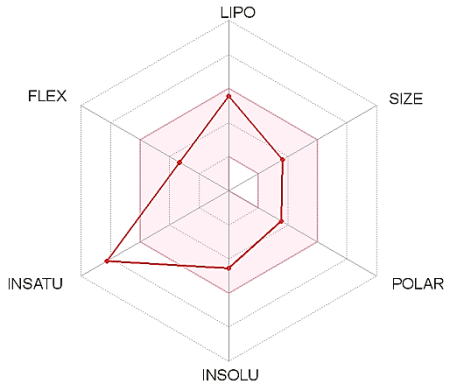


**Figure S1-4:** The bioavailability radar of oxaprozin

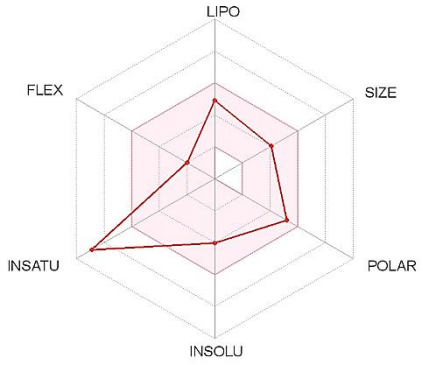


**Figure S1-5:** The bioavailability radar of piroxicam

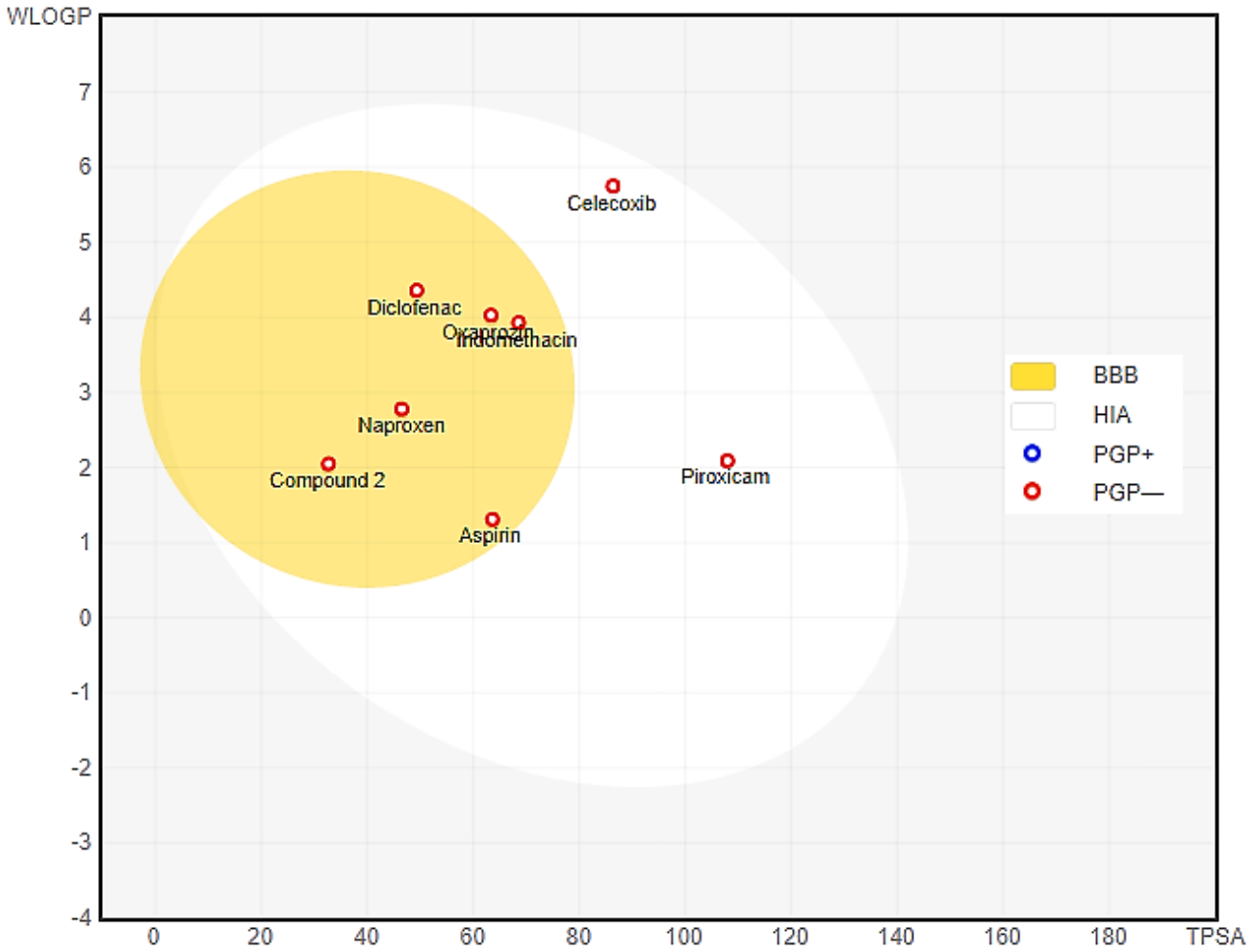


**Figure S2.** The BOILED-Egg model representation of compound **2** and selected NSAIDs.

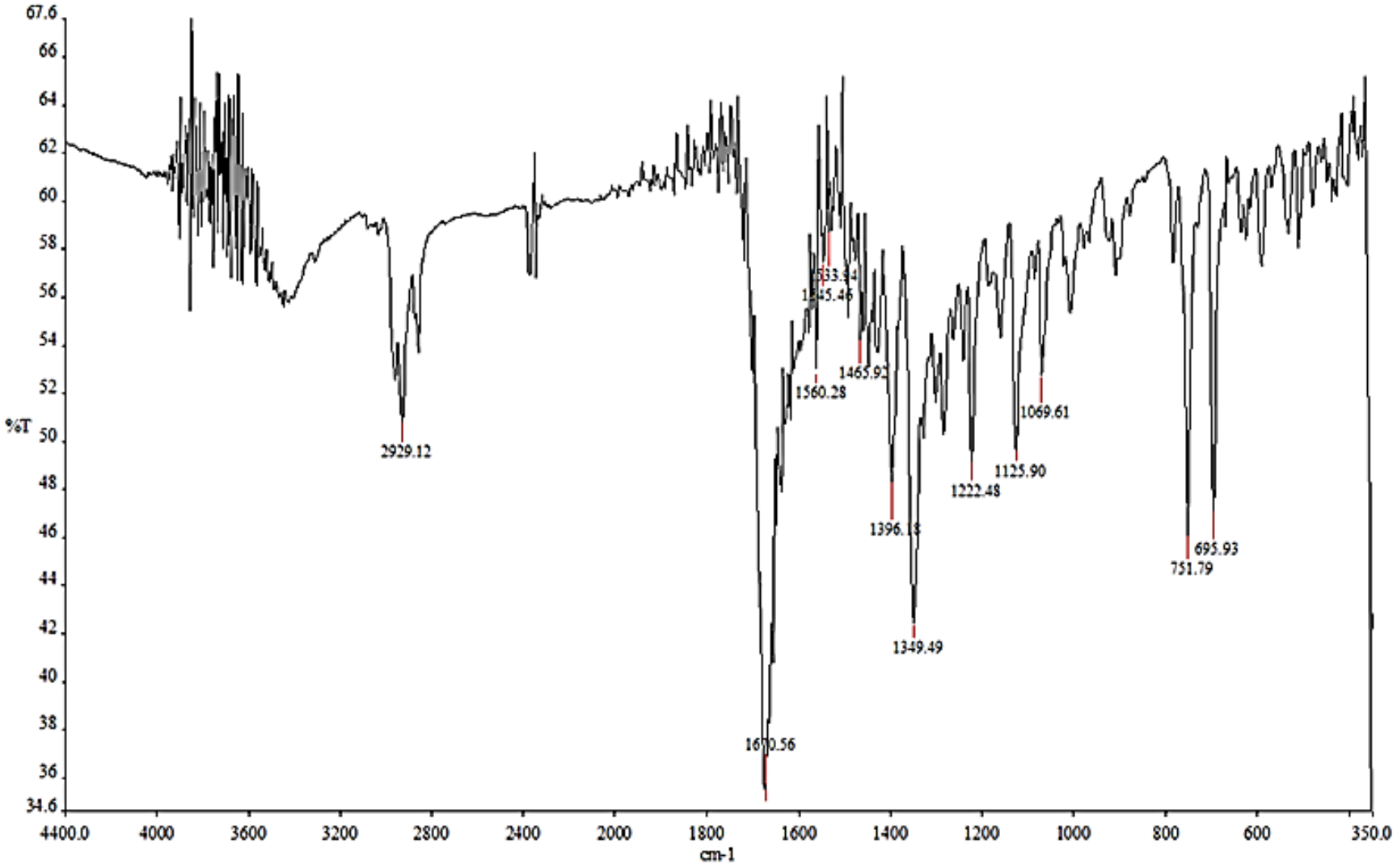


**Figure S3.** FTIR of compound **2**

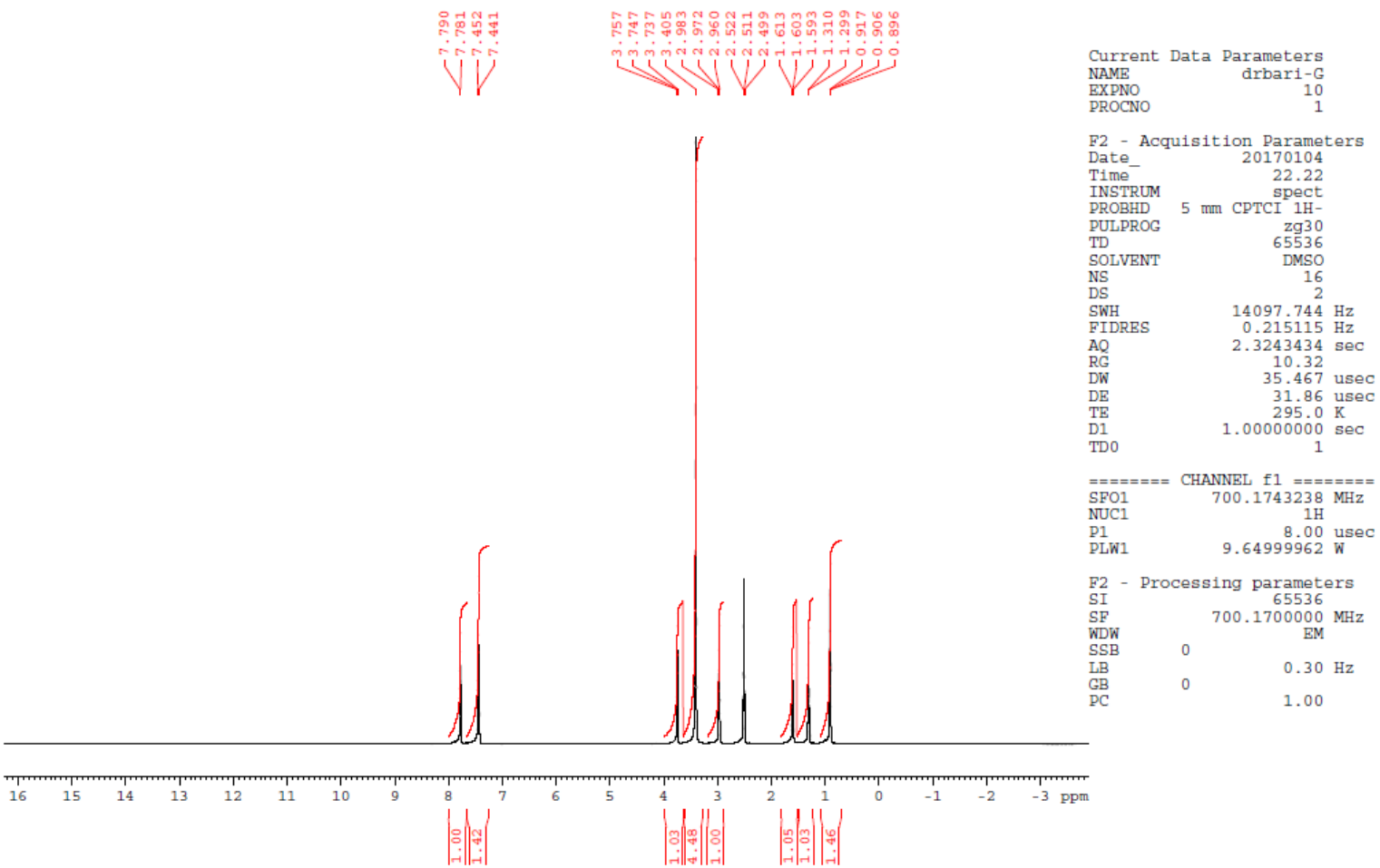


**Figure S4.** $^{1}$H-NMR of compound **2**.

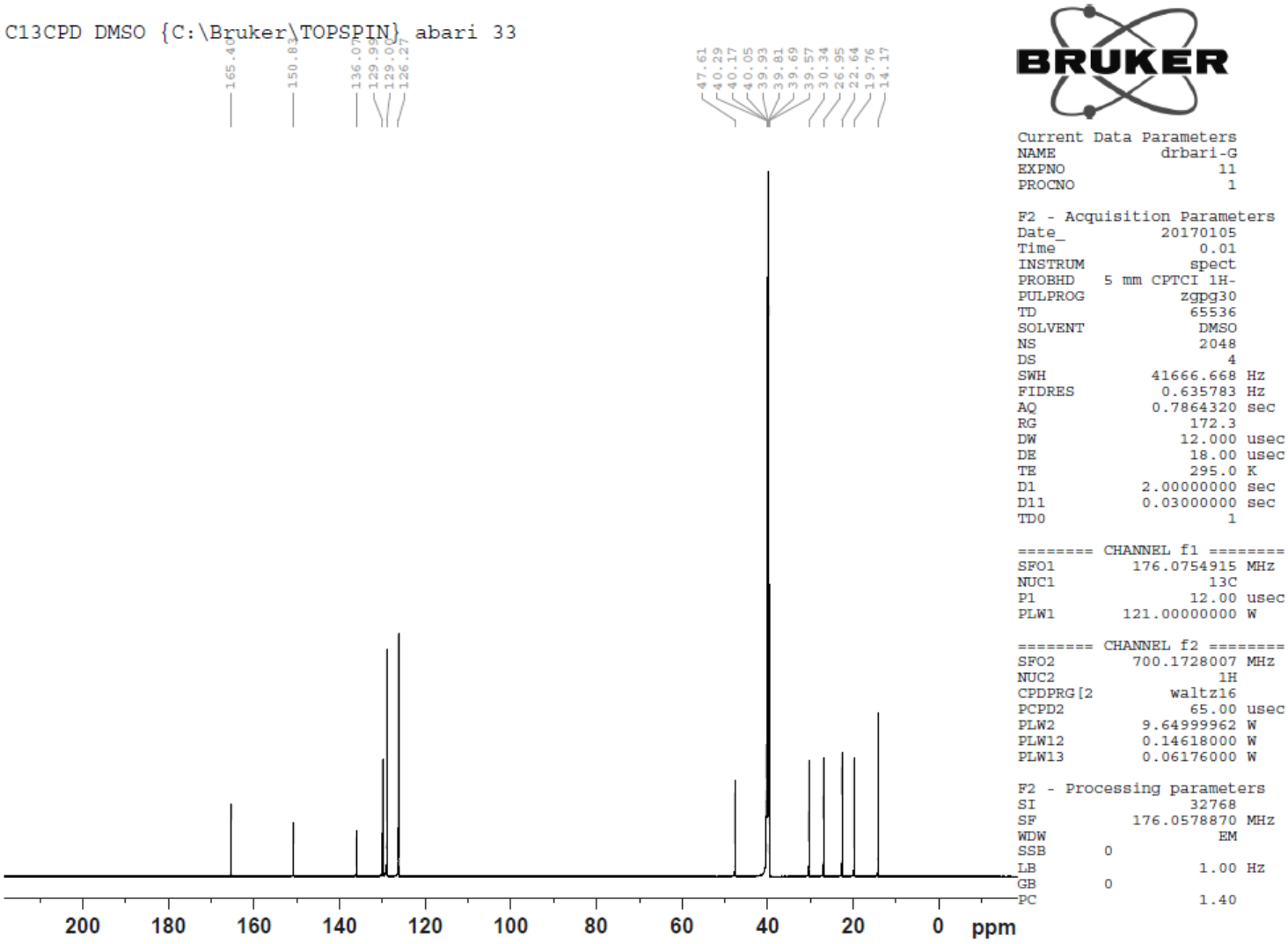


**Figure S5.** $^{13}$C-NMR of compound **2**.

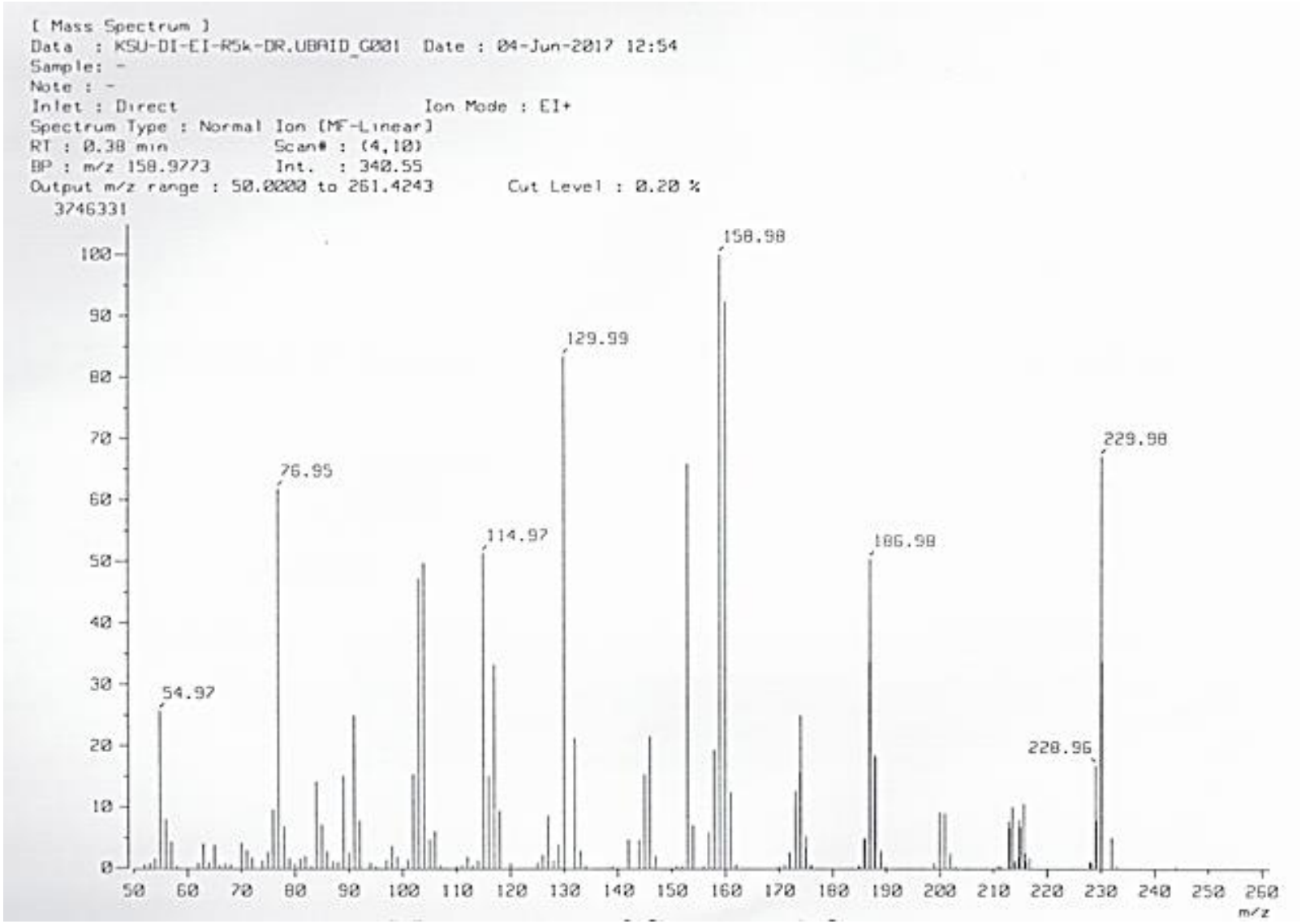


**Figure S6.** Mass spectra of compound **2**.