

11-Keto- α -boswellic Acid, a Novel Triterpenoid from *Boswellia* spp. with Chemotaxonomic Potential and Antitumor Activity against Triple-Negative Breast Cancer Cells

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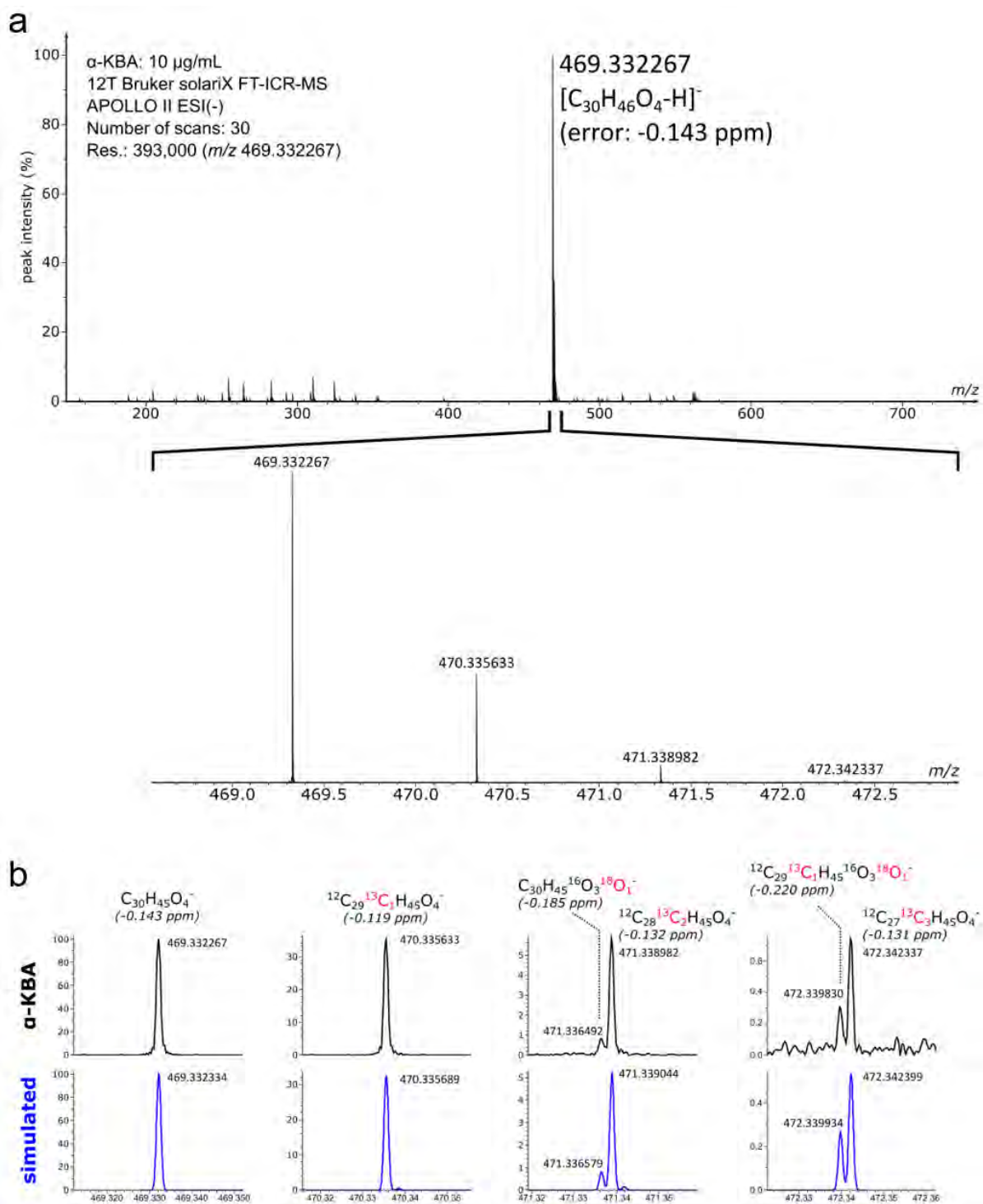


Figure S1. High-resolution mass spectrometry (HR-MS) of α -KBA. (a) HR mass spectrum with an exact mass at m/z 469.332267 for $[\text{M-H}]^-$ (calcd.: 469.332333, error: -0.143 ppm). (b) The isotope pattern and the individual exact masses corresponded to predicted data.

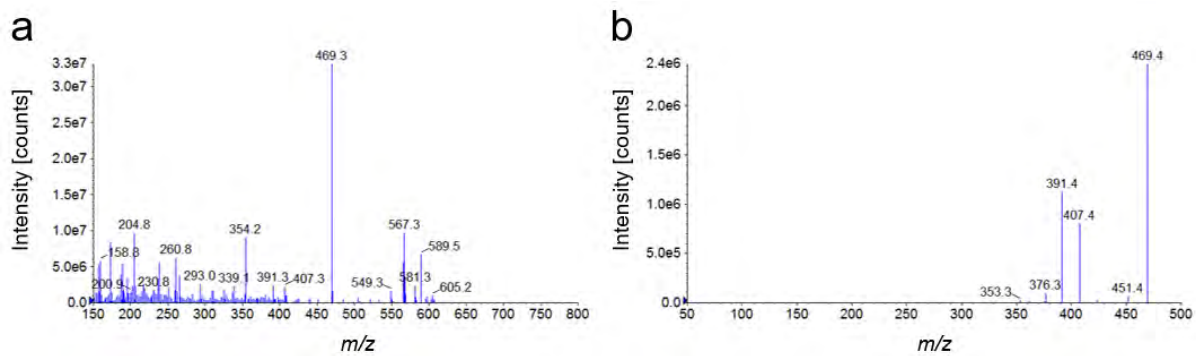


Figure S2. Tandem mass spectrometry (MS/MS) of α -KBA. (a) Mass spectrum with m/z 469.3 ([M-H]⁻) as precursor ion. (b) Product ion mass spectrum with characteristic fragments at m/z 353.3, 376.3, 391.4, 407.4, and 451.4.

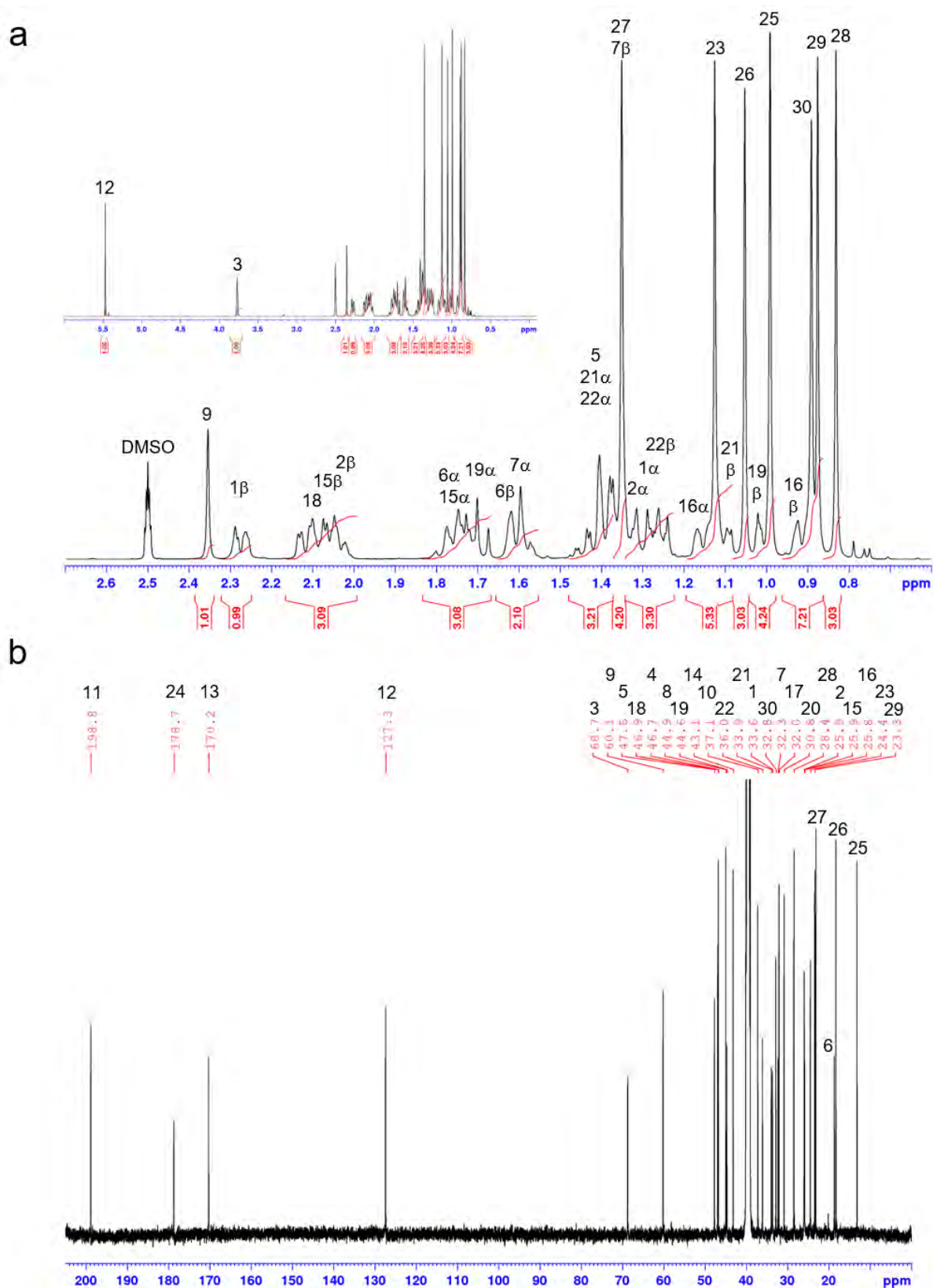


Figure S3. ^1H and ^{13}C NMR spectra of α -KBA (in $\text{DMSO-}d_6$). (a) ^1H NMR spectrum. (b) ^{13}C NMR spectrum. Assignment of signals according to Figure 3a and Table 1 of the main text.

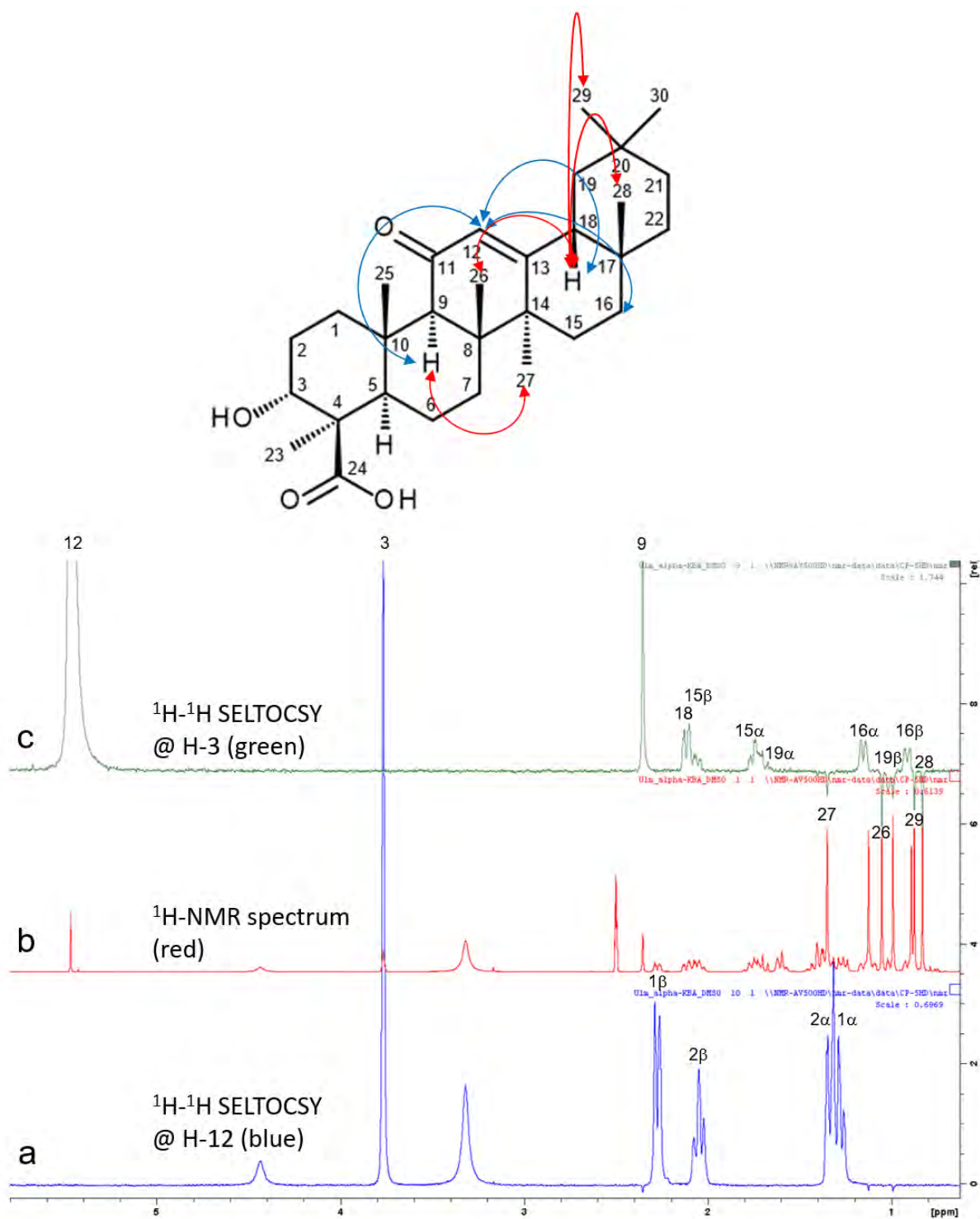


Figure S4. ^1H , ^1H SELTOCSY (selective total correlation spectroscopy) spectra of α -KBA (in $\text{DMSO-}d_6$). Comparison of the ^1H NMR spectrum (**b**) with ^1H , ^1H SELTOCSY spectra. (**a**) Transmitter frequency at δ_{H} 3.77 (H-3). (**c**) Transmitter frequency at δ_{H} 5.47 (H-12).

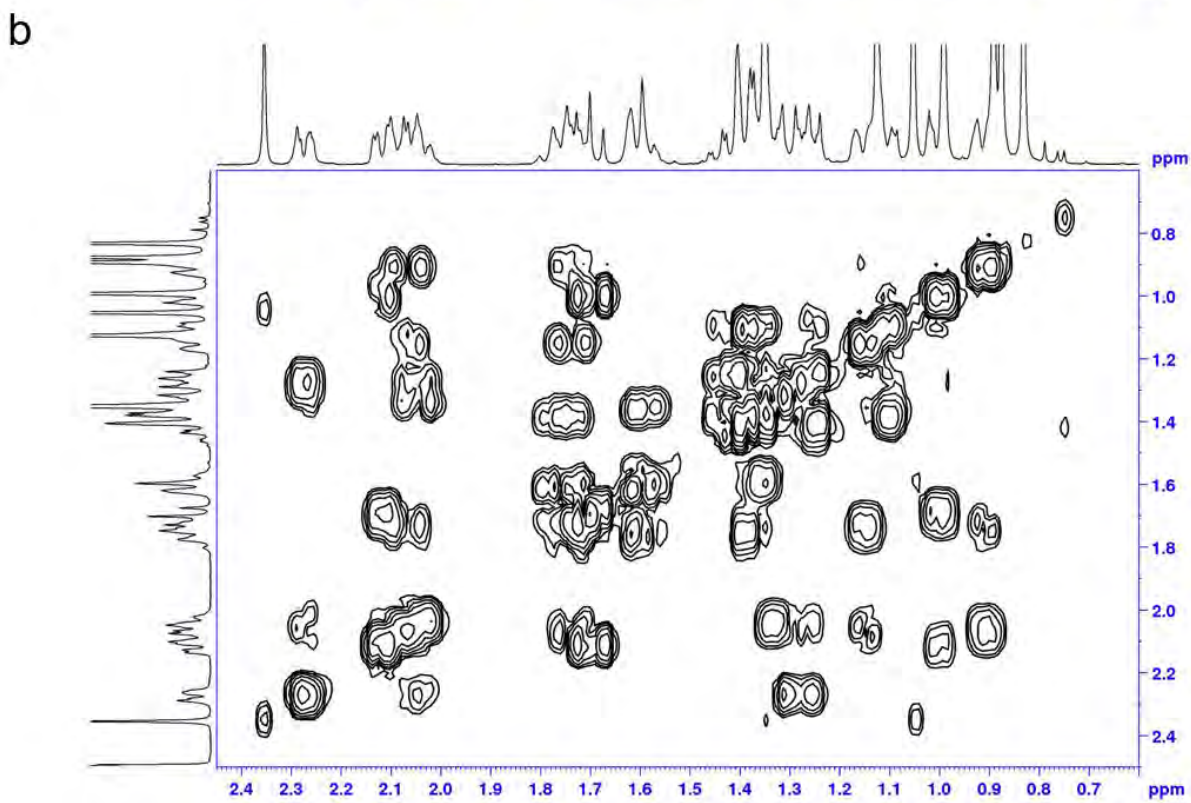
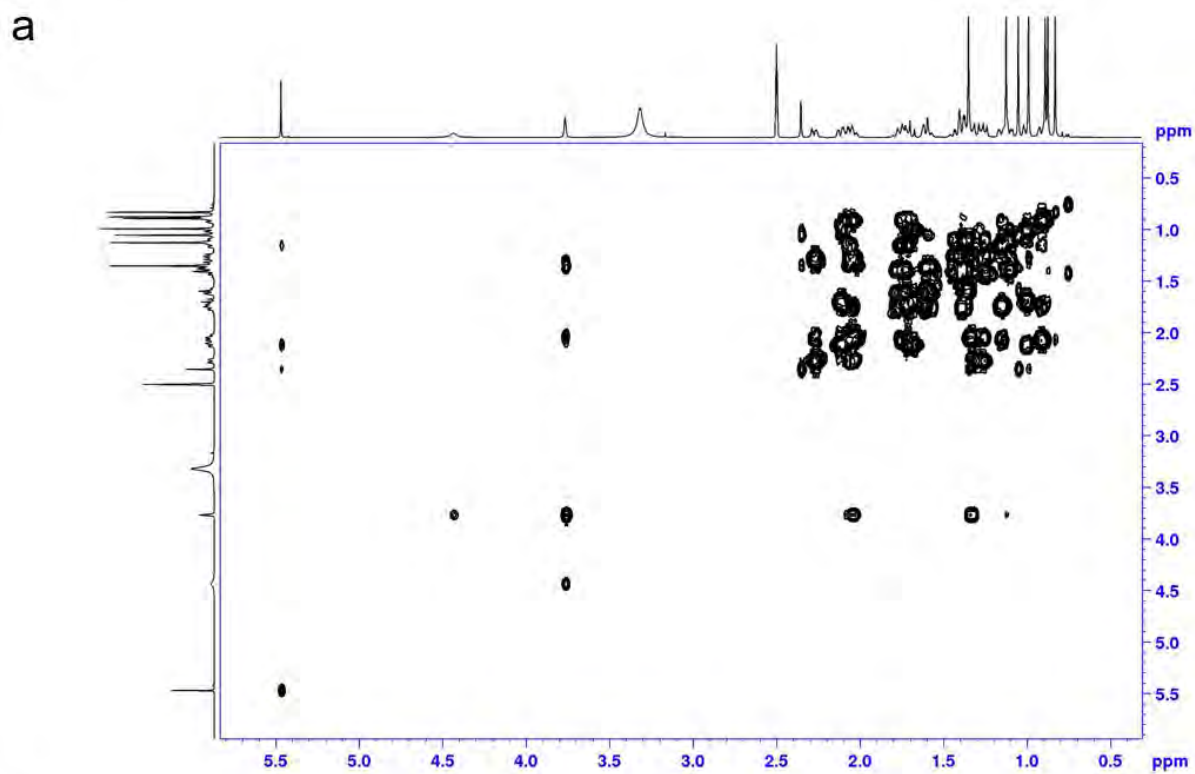
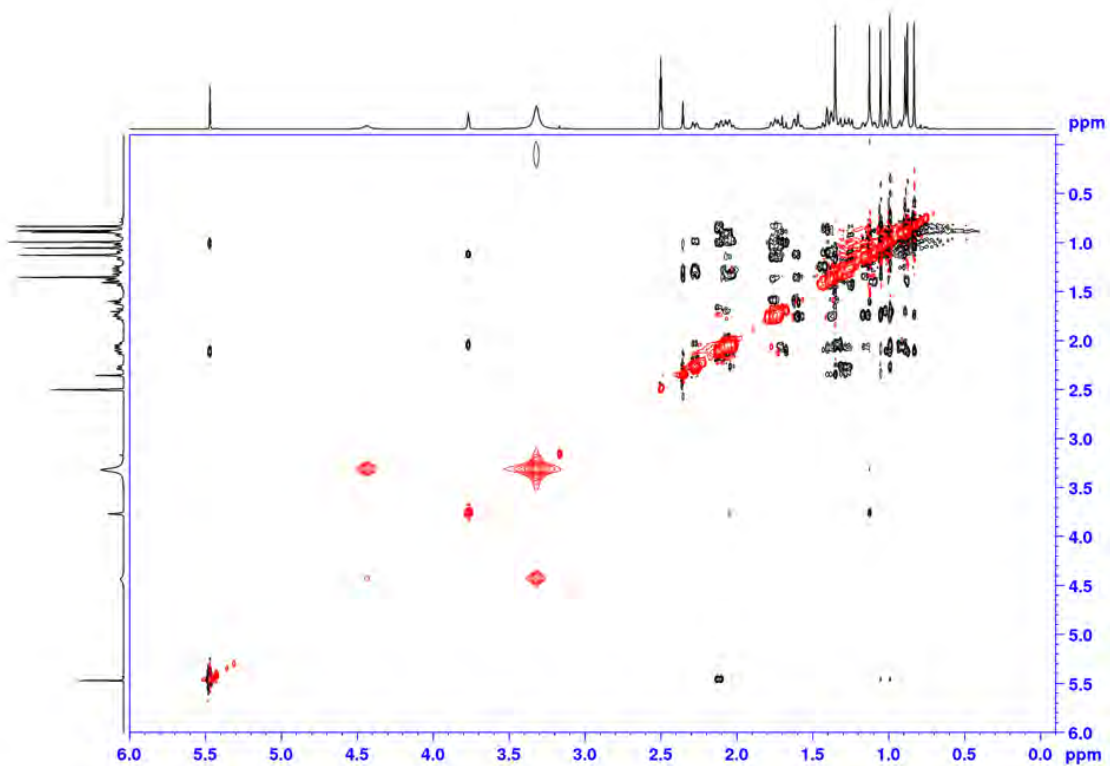


Figure S5. ^1H , ^1H COSY (correlation spectroscopy) spectrum of α -KBA (in $\text{DMSO-}d_6$). (a) Full spectrum. (b) Enlarged section.

a



b

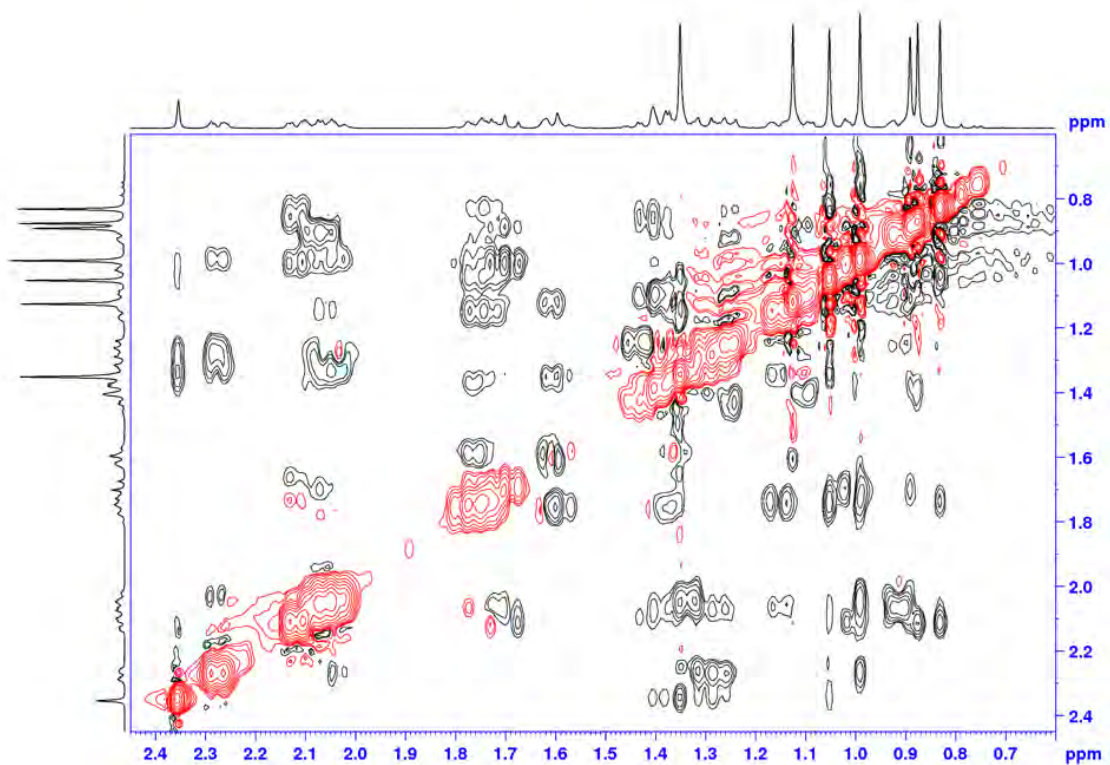


Figure S6. ^1H , ^1H ROESY (rotating frame Overhauser enhancement spectroscopy) spectrum of α -KBA (in $\text{DMSO-}d_6$). (a) Full spectrum. (b) Enlarged section.

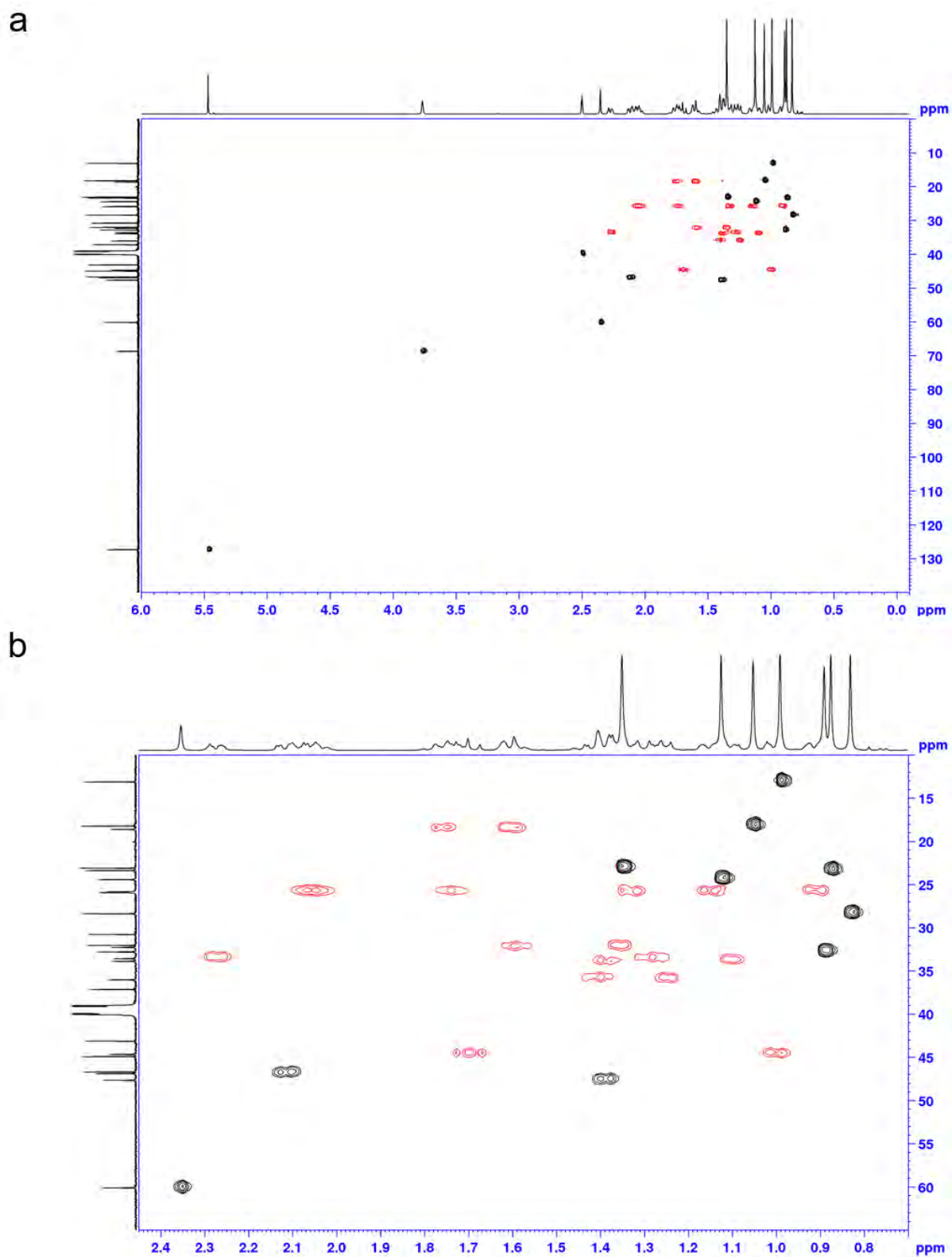


Figure S7. ^1H , ^{13}C HSQC (heteronuclear single quantum coherence spectroscopy) spectrum of α -KBA (in $\text{DMSO-}d_6$). (a) Full spectrum. (b) Enlarged section.

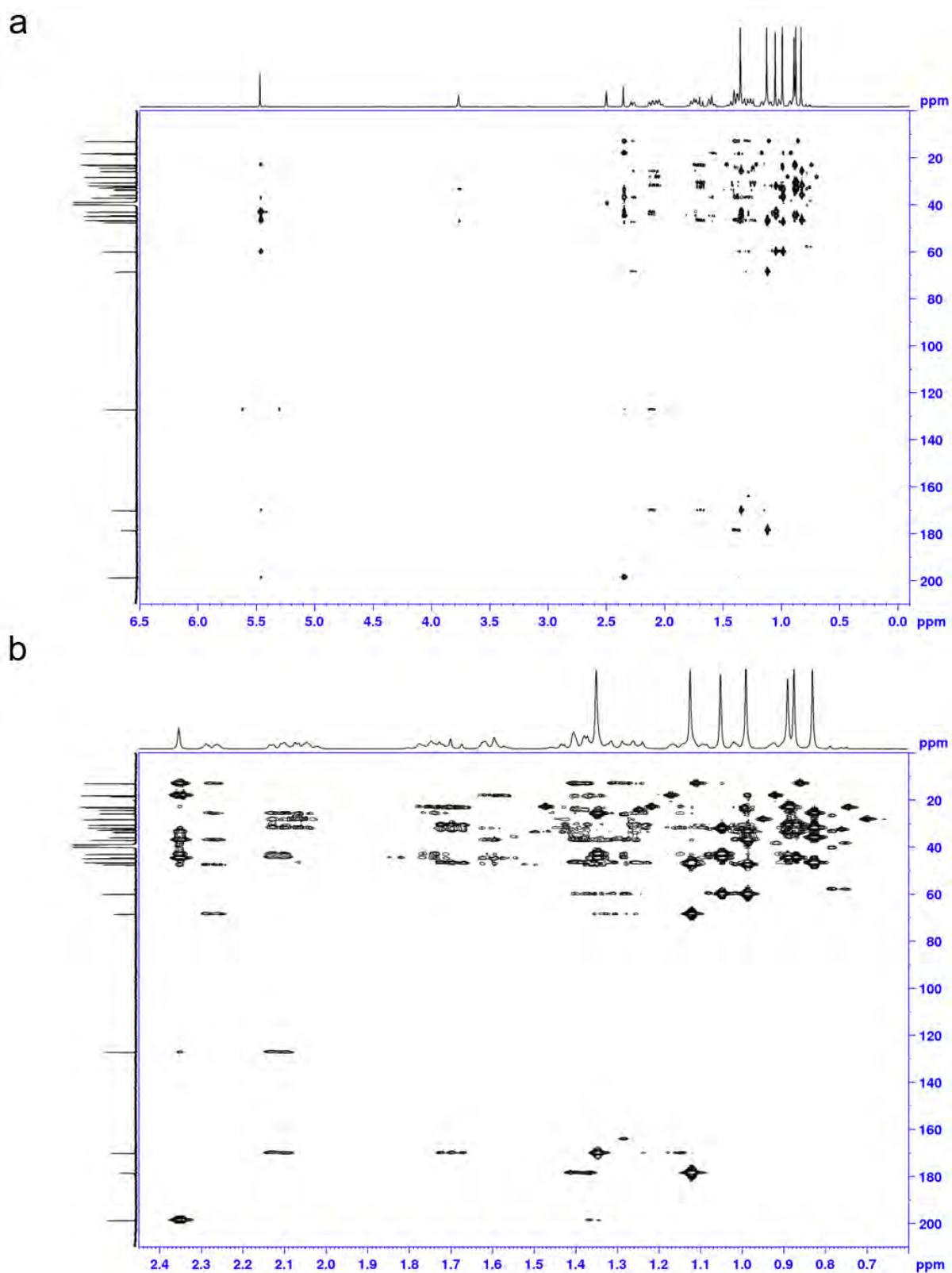


Figure S8. ^1H , ^{13}C HMBC (heteronuclear multiple bond correlation spectroscopy) spectrum of α -KBA (in $\text{DMSO-}d_6$). (a) Full spectrum. (b) Enlarged section.