

ELECTRONIC SUPPLEMENTARY MATERIALS

Sulfamides in catalytic aminomethylation and thiomethylation reactions. Report 1. Thiomethylation of regioisomeric aminobenzenesulfonamides with linear alkanethiols and paraformaldehyde using ytterbium and samarium salt catalysis.

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Mass spectra of compounds 3 a–c, 4 a–c, 5 a, 5 c

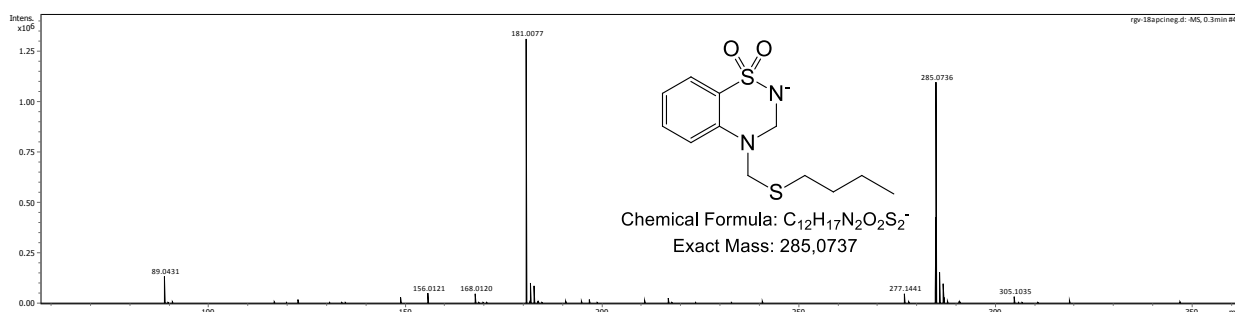


Fig. S1. 4-((Butylthio)methyl)-3,4-dihydro-2H-benzo[e][1,2,4]thiadiazine 1,1-dioxide **3a**

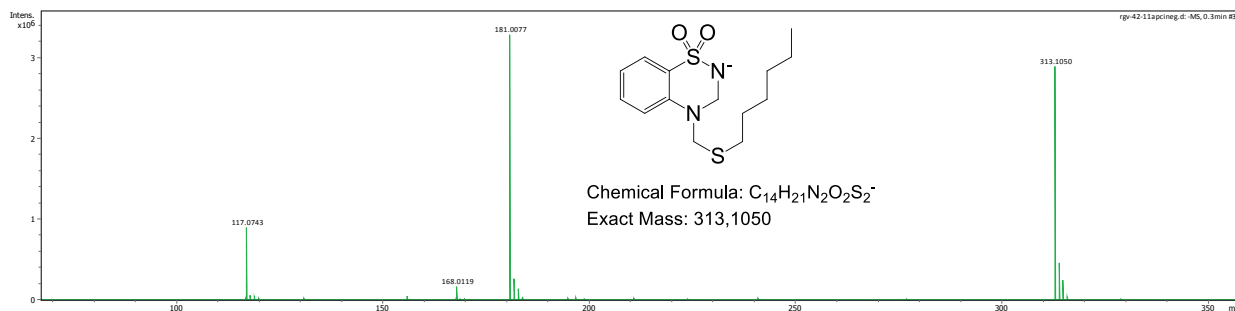


Fig. S2. 4-((Hexylthio)methyl)-3,4-dihydro-2H-benzo[e][1,2,4]thiadiazine 1,1-dioxide **3b**

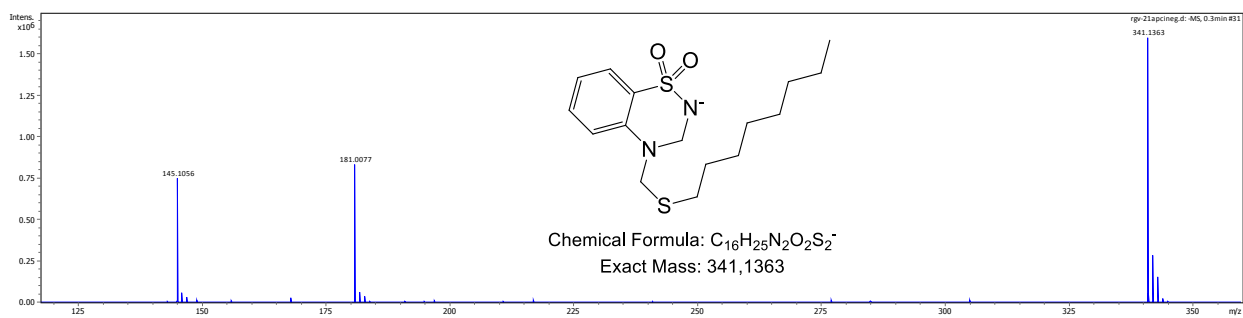


Fig. S3. 4-((Octylthio)methyl)-3,4-dihydro-2*H*-benzo[*e*][1,2,4]thiadiazine 1,1-dioxide **3c**

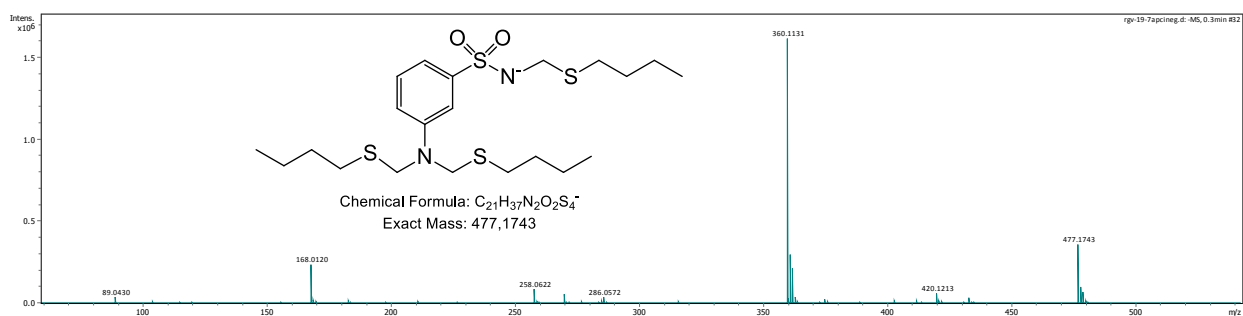


Fig. S4. 3-(Bis((butylthio)methyl)amino)-*N*-((butylthio)methyl)benzenesulfonamide **4a**

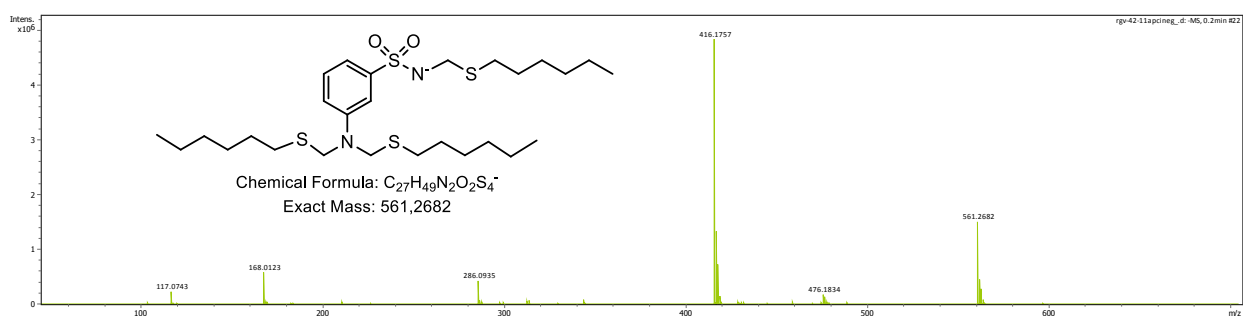


Fig. S5. 3-(Bis((hexylthio)methyl)amino)-*N*-((hexylthio)methyl)benzenesulfonamide **4b**

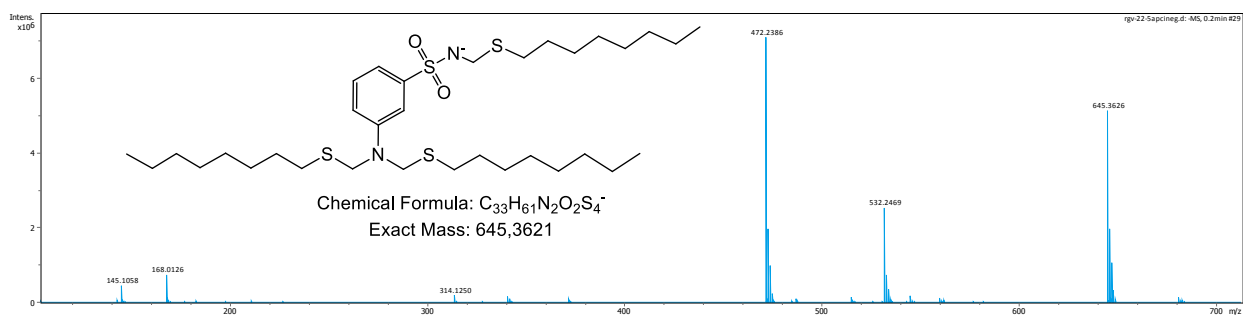


Fig. S6. 3-(Bis((octylthio)methyl)amino)-N-((octylthio)methyl)benzenesulfonamide **4c**

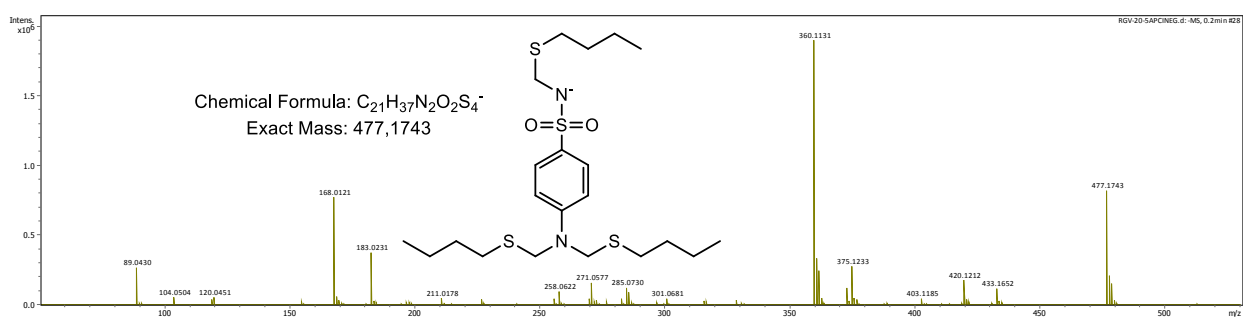


Fig. S7. 4-(Bis((butylthio)methyl)amino)-N-((butylthio)methyl)benzenesulfonamide **5a**

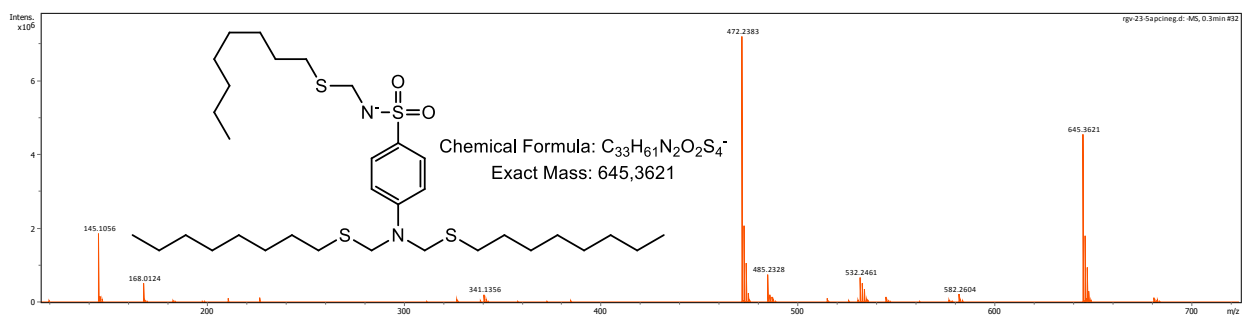


Fig. S8. 4-(Bis((octylthio)methyl)amino)-N-((octylthio)methyl)benzenesulfonamide **5c**

Spectra of compounds 5a and 6a

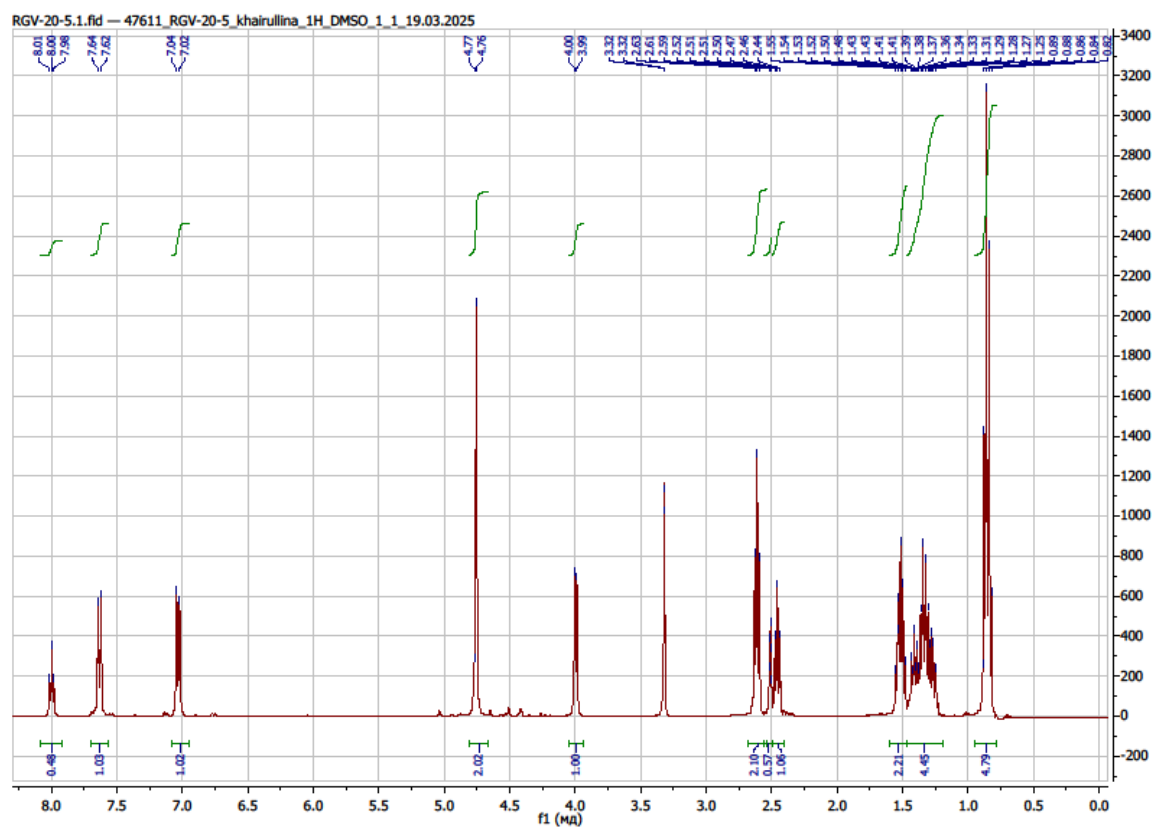


Fig. S9. ^1H NMR spectrum of 5a in $\text{DMSO}-d_6$

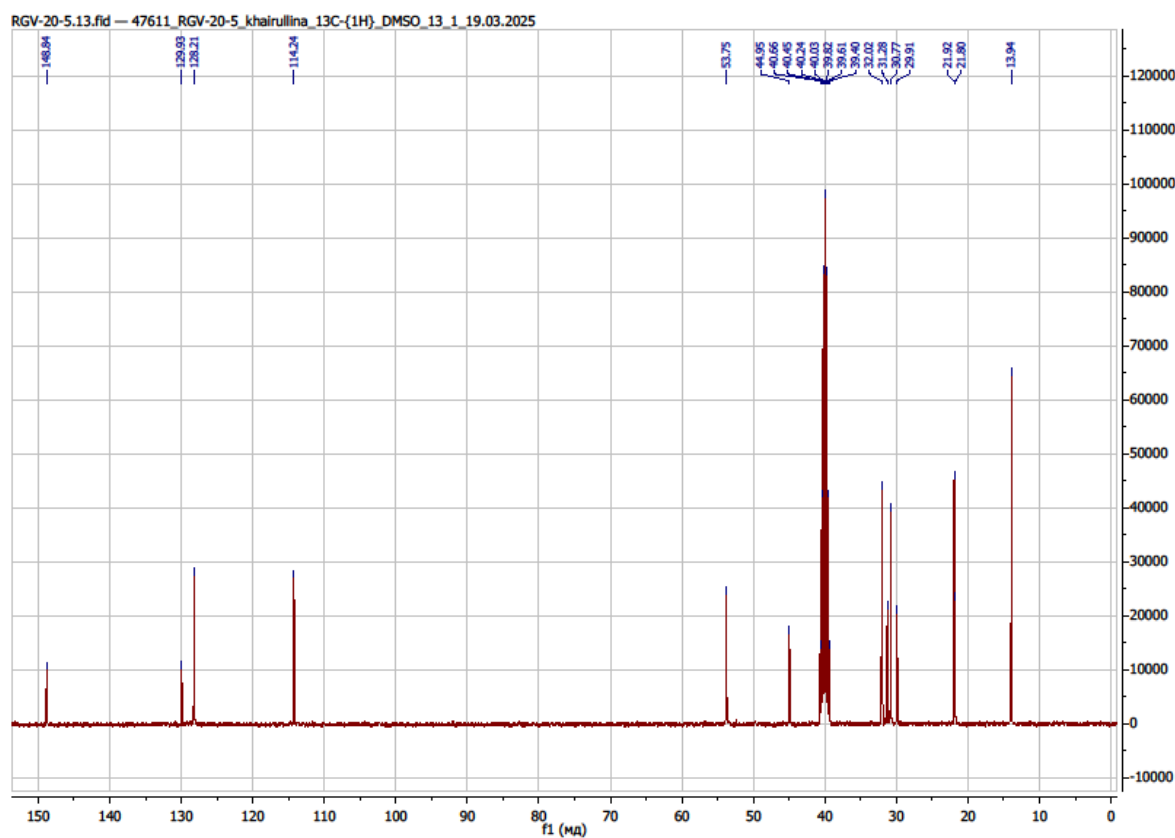


Fig. S10. ^{13}C NMR spectrum of 5a in $\text{DMSO}-d_6$

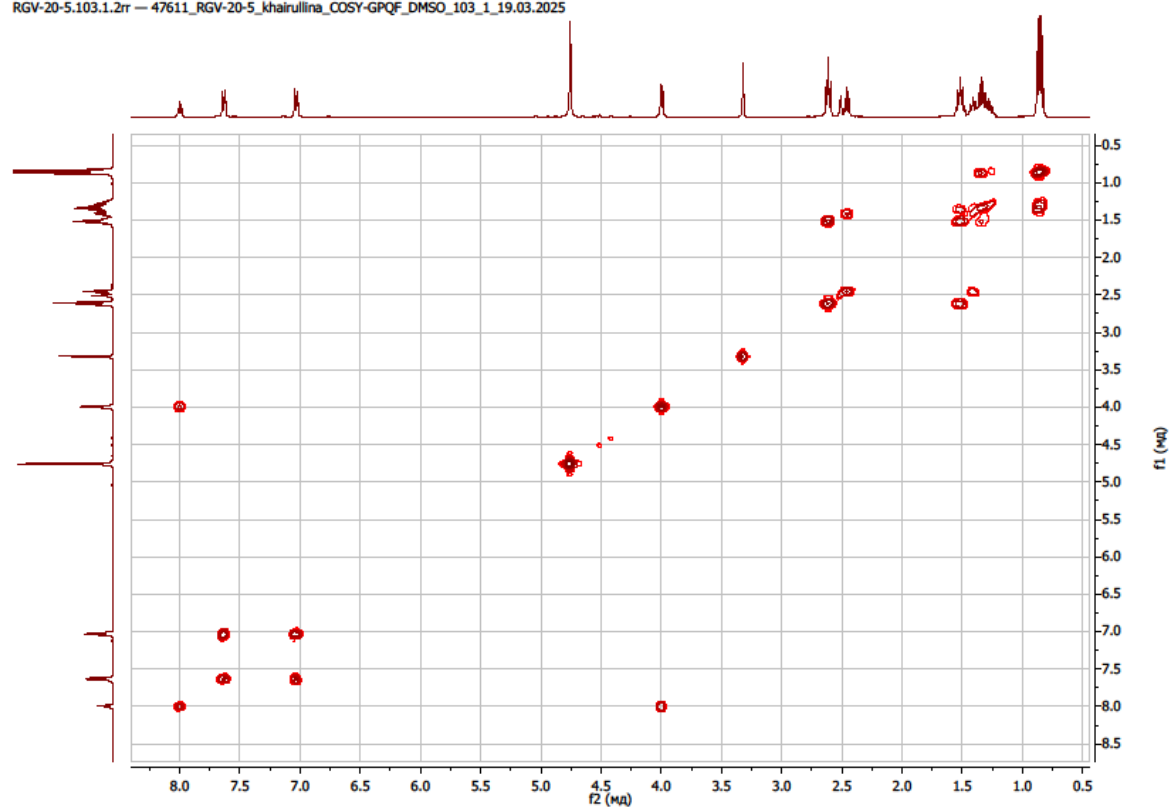


Fig. S11. COSY spectrum of **5a** in DMSO- d_6

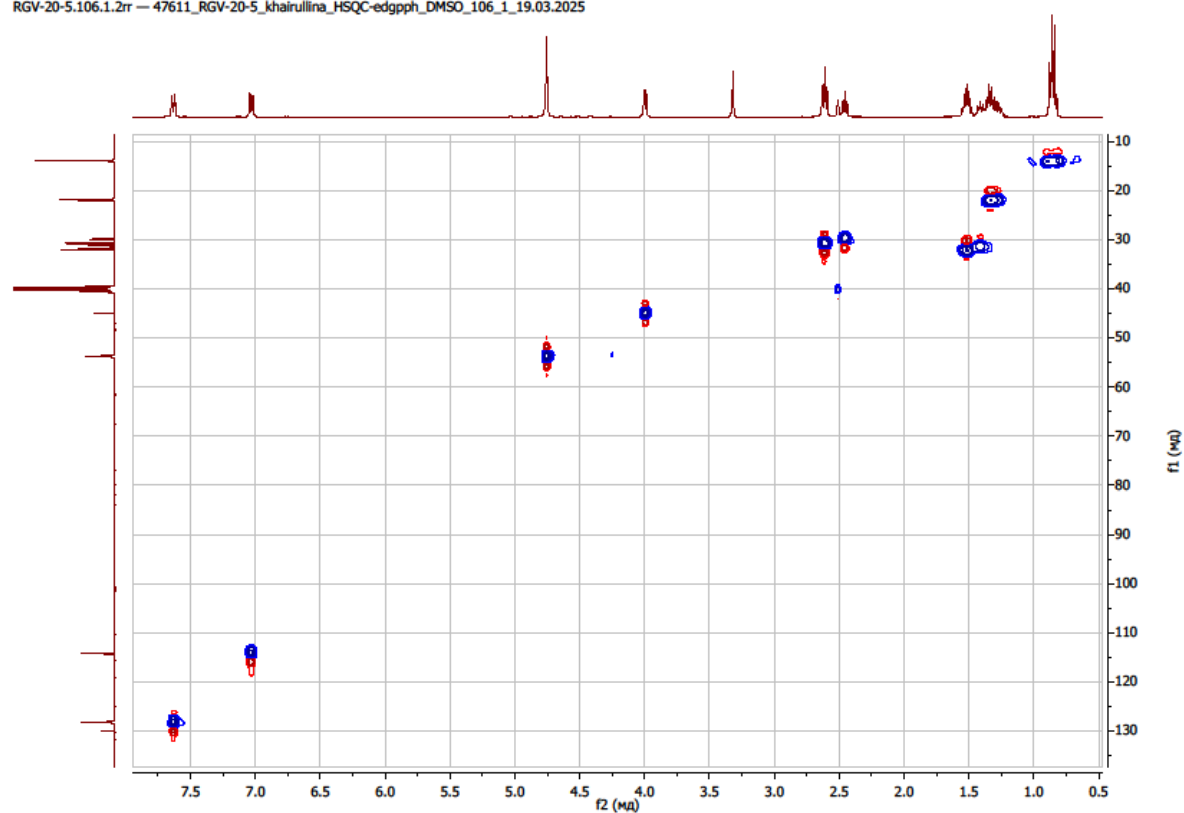


Fig. S12. HSQC spectrum of **5a** in DMSO- d_6

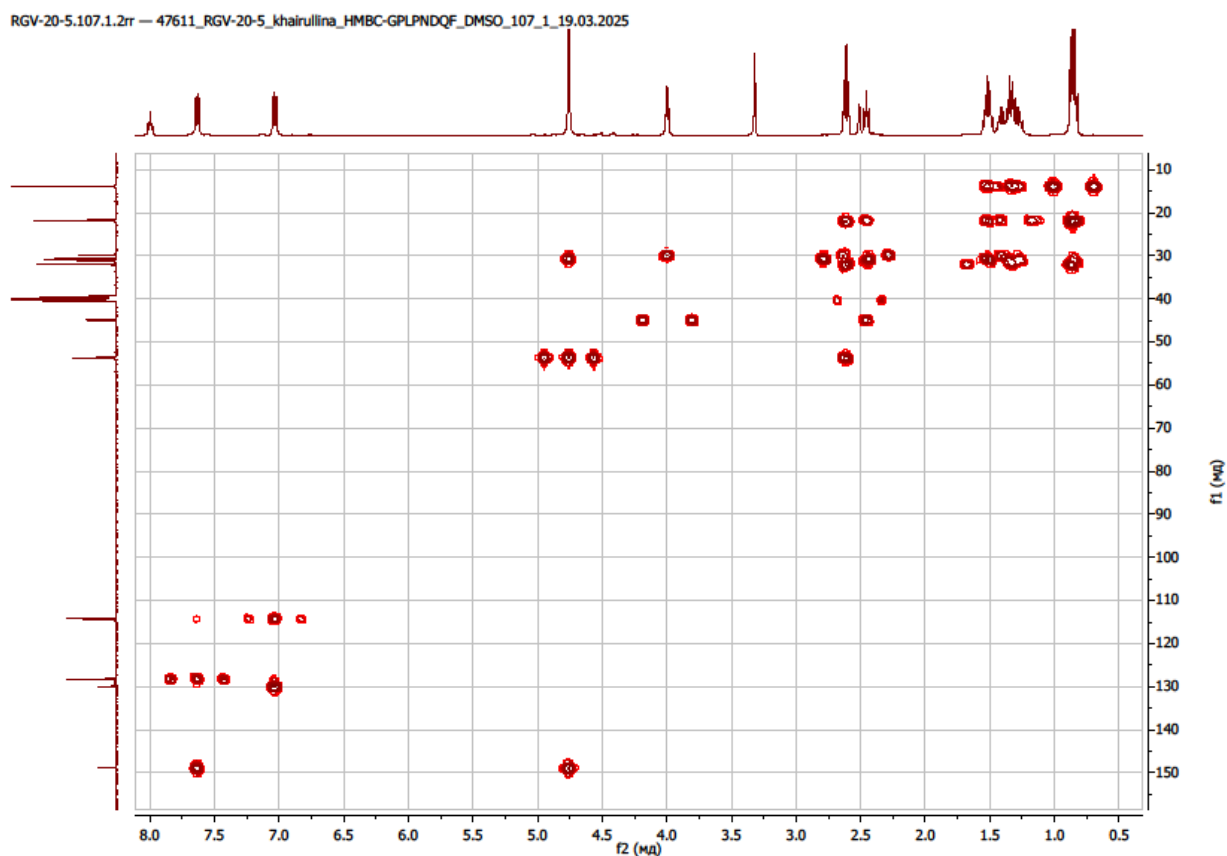


Fig. S13. HMBC spectrum of **5a** in DMSO- d_6

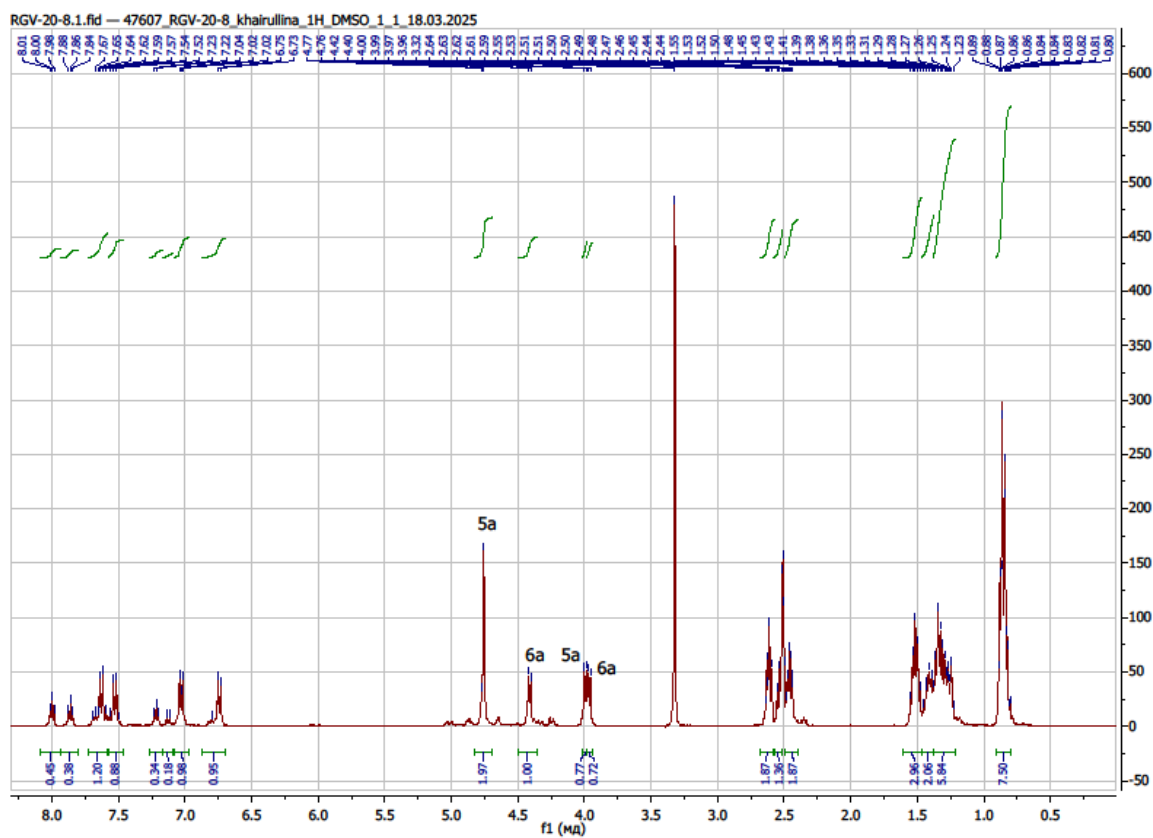


Fig. S14. ^1H NMR spectrum of the mixture of **5a** and **6a** in DMSO- d_6

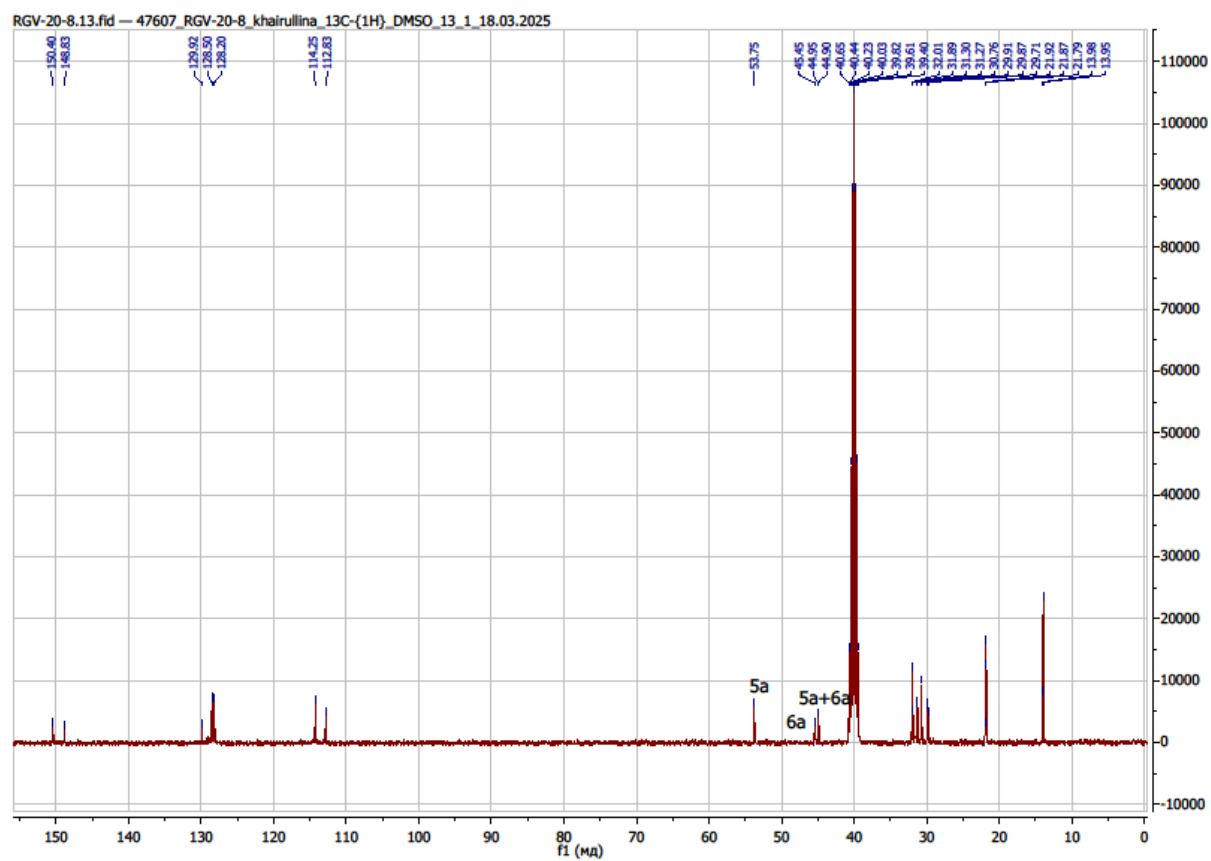


Fig. S15. ^{13}C NMR spectrum of the mixture of **5a** and **6a** in $\text{DMSO-}d_6$