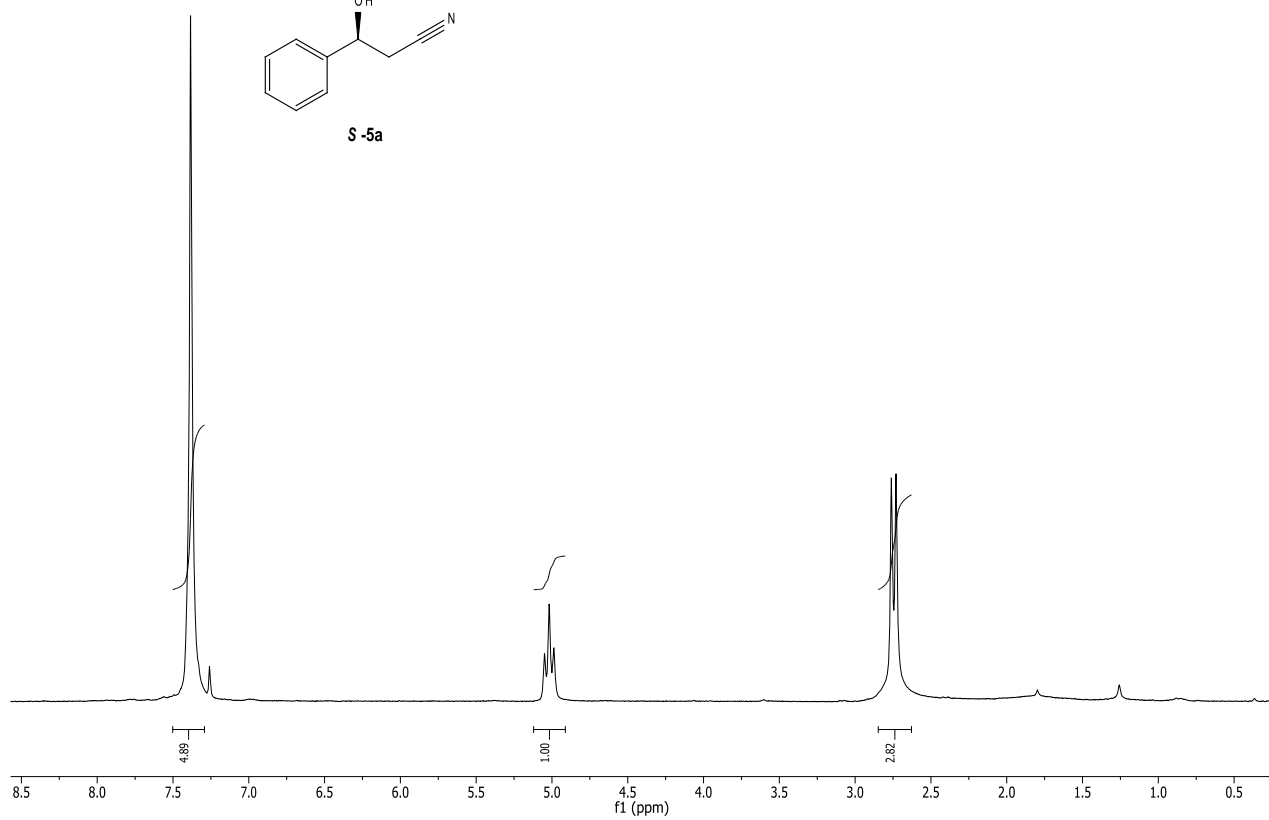
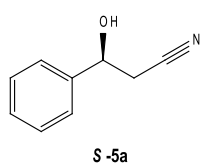


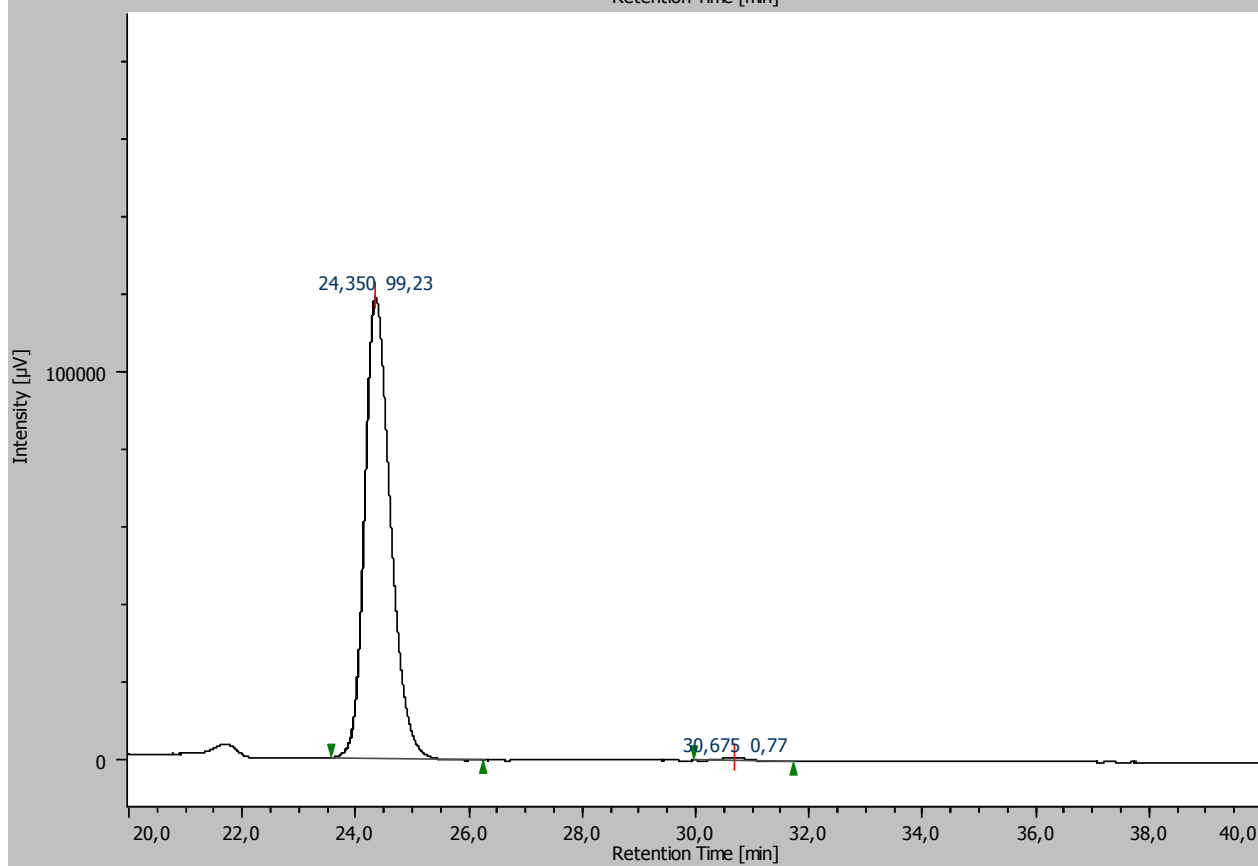
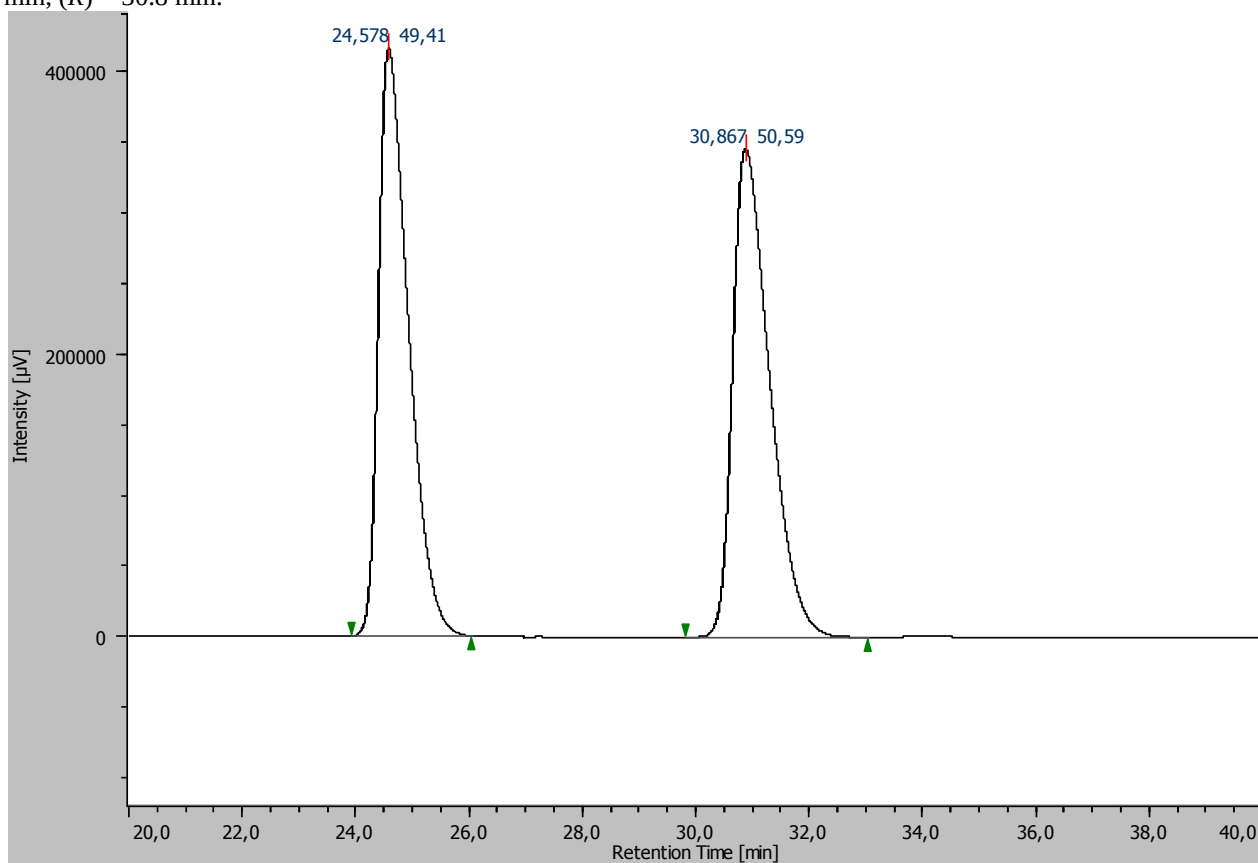
Electronic Supplementary Information (ESI) for New Journal of Chemistry

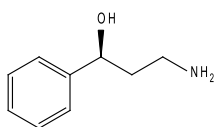
Simple 1,3 diamines and their application as ligands in ruthenium(II) catalysts for asymmetric transfer hydrogenation of aryl ketones.

Giorgio Facchetti, Raffaella Gandolfi, Marco Fusè, Daniele Zerla, Edoardo Cesarotti, Michela Pellizzoni, Isabella Rimoldi

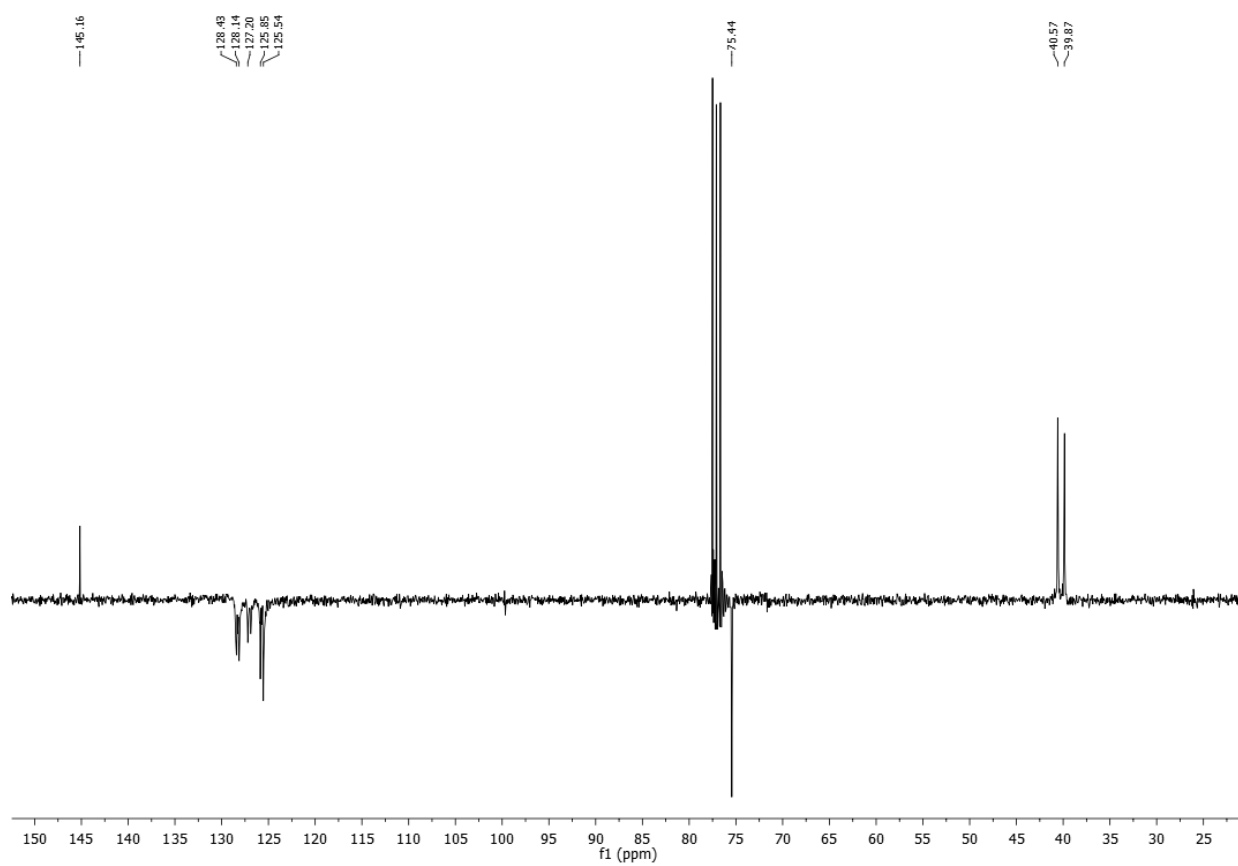
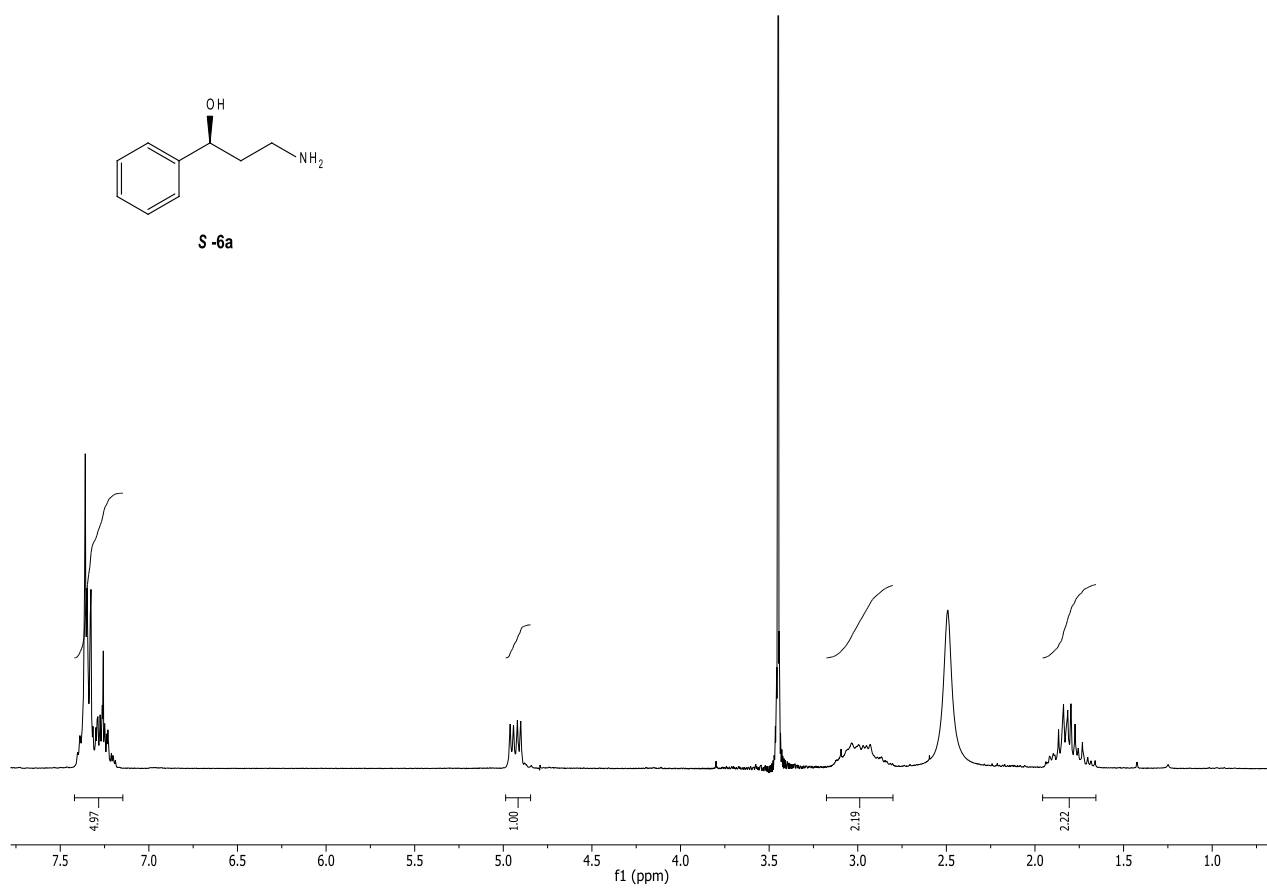


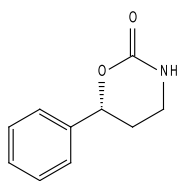
HPLC data for **5a**: OJ-H Chiralcel, eluent: hexane: 2-propanol = 90:10, flow = 1.0 mL/min, λ = 216 nm; rt: (S) = 24.5 min, (R) = 30.8 min.



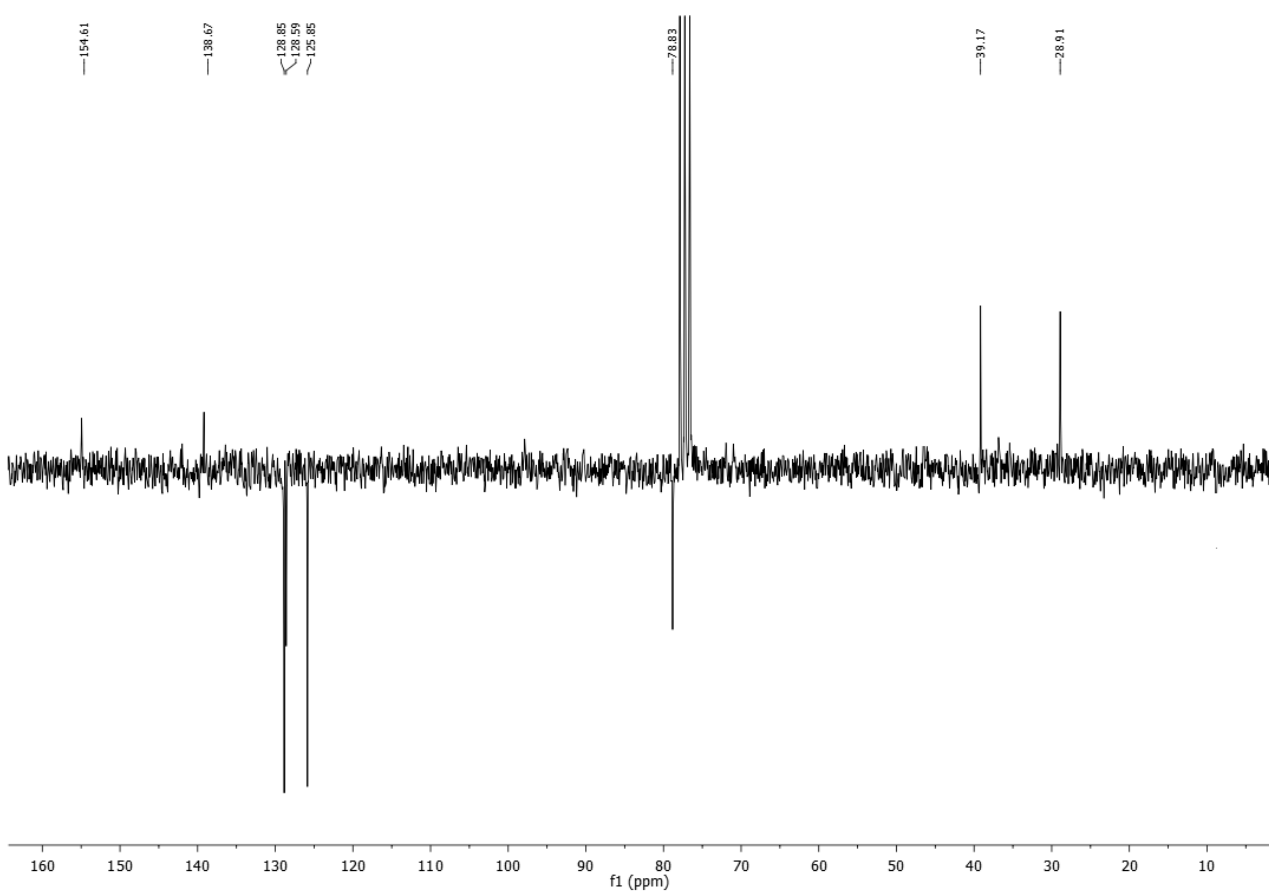
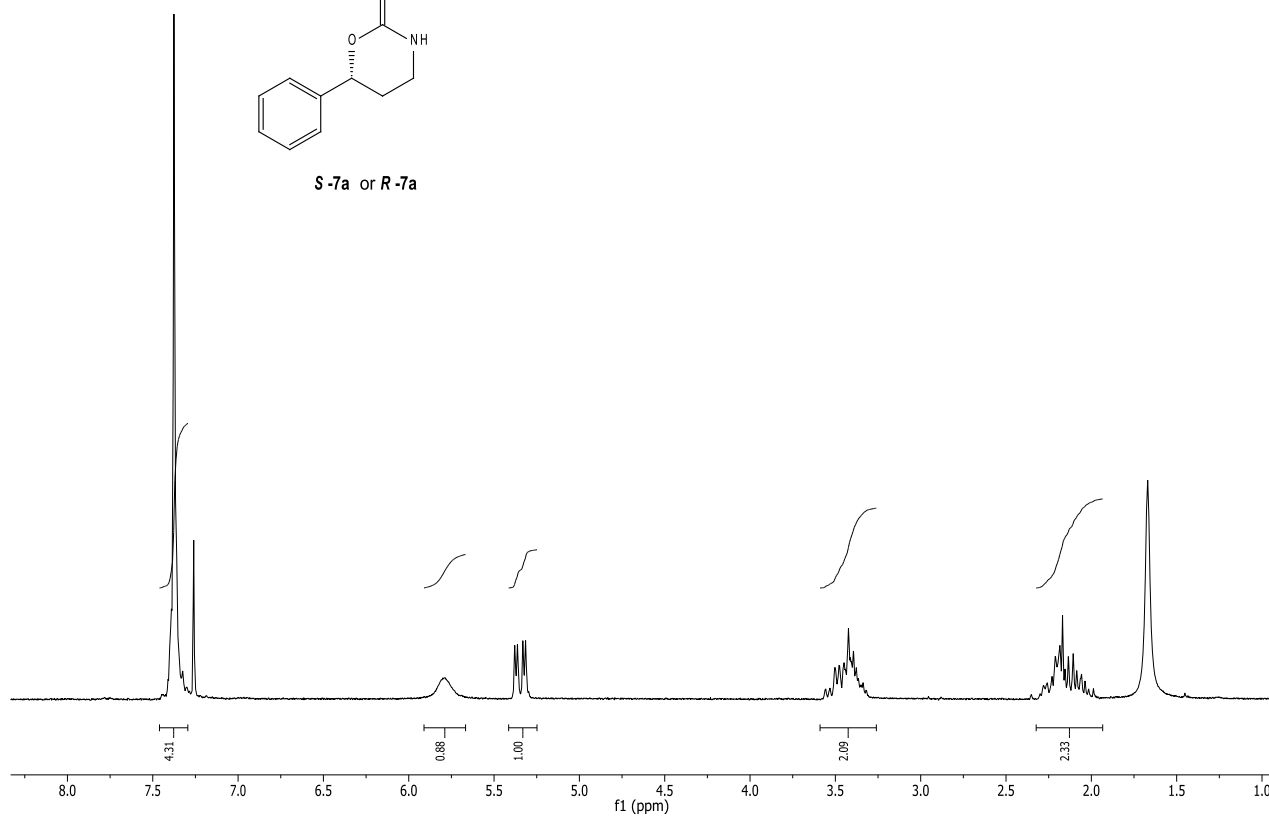


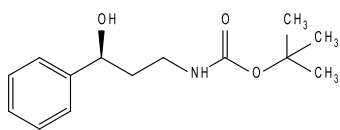
S -6a



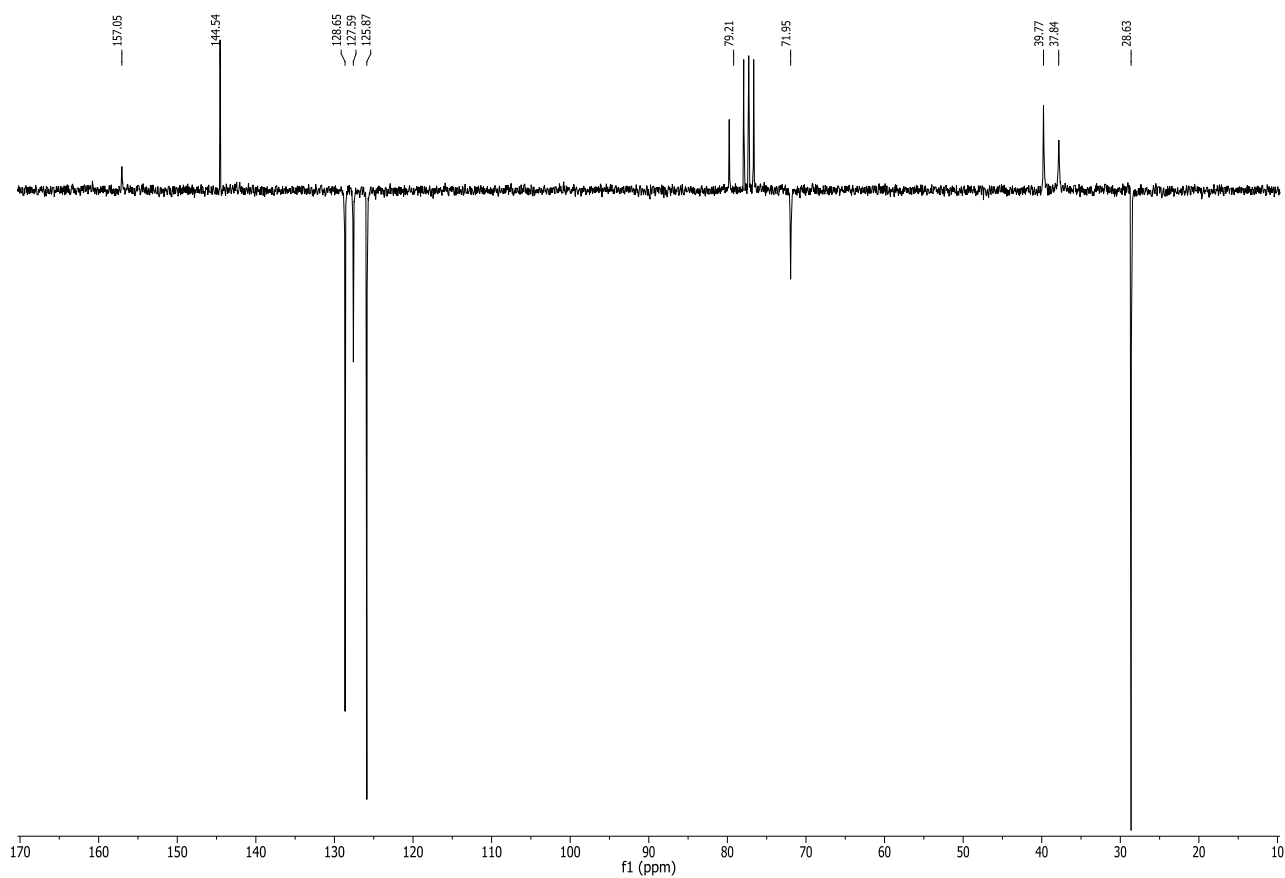
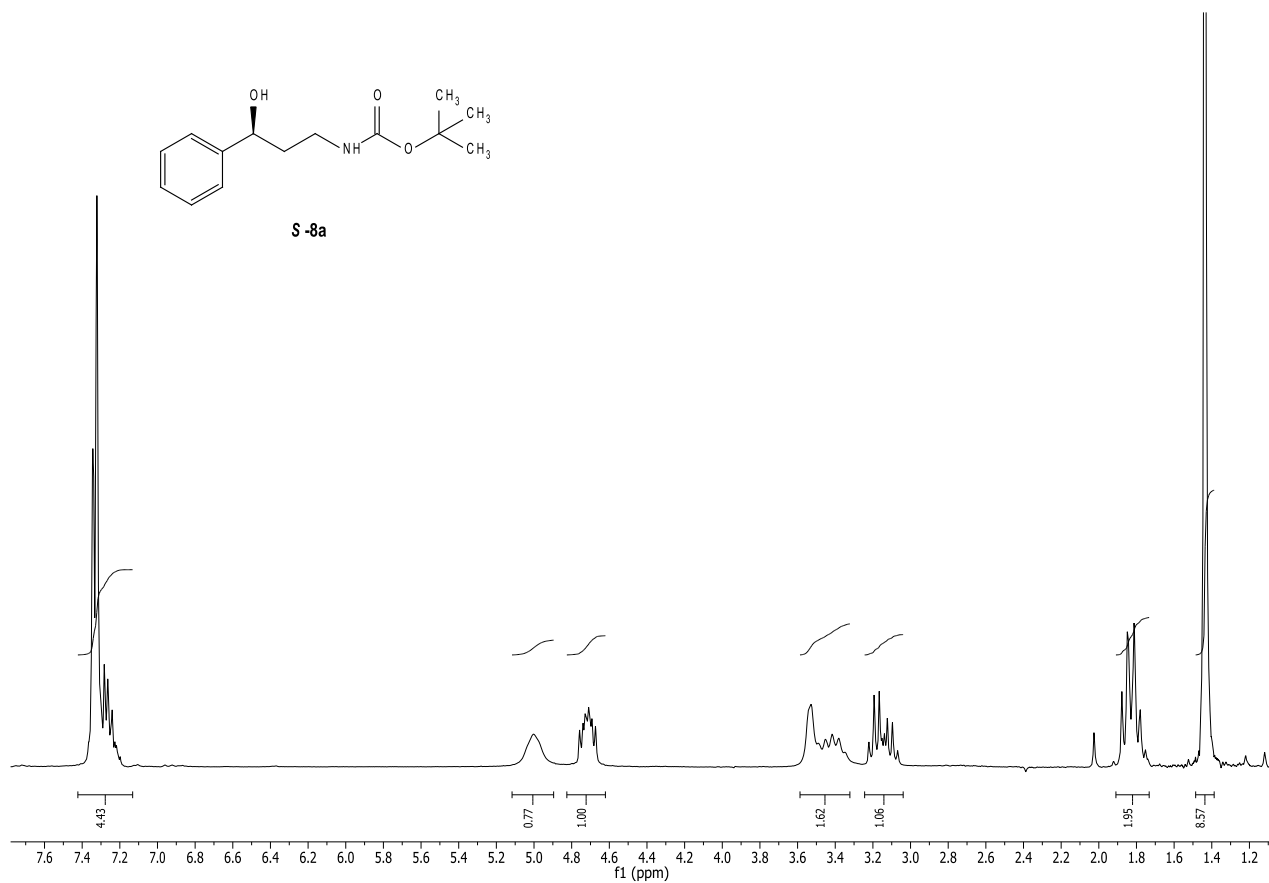


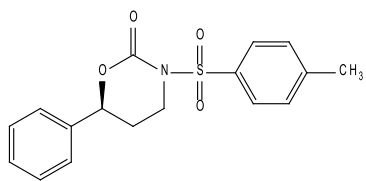
S-7a or R-7a



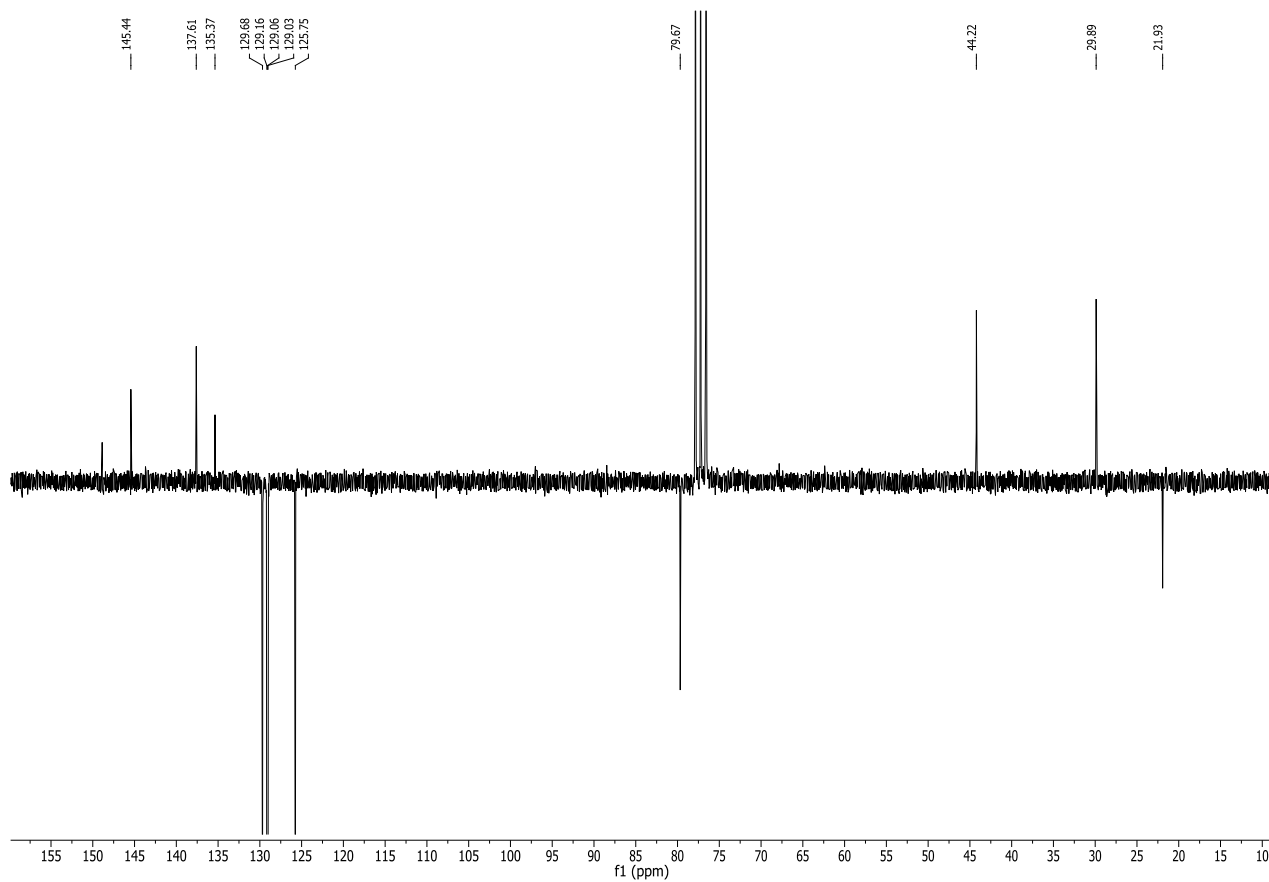
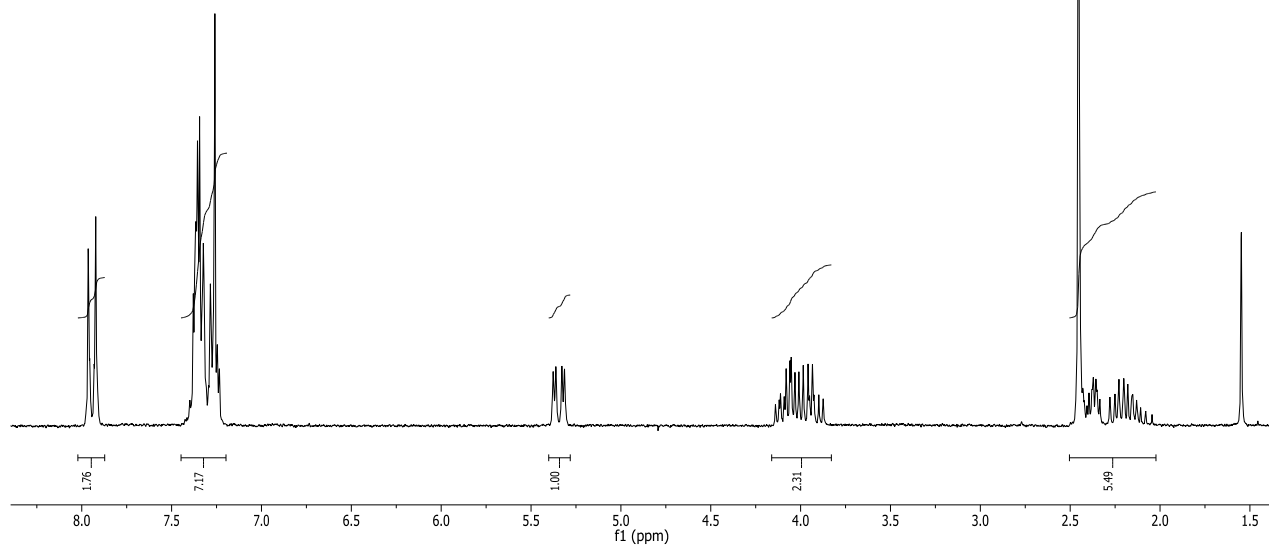


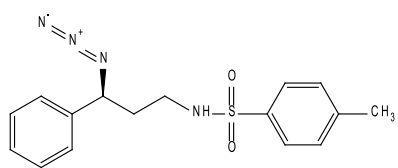
S-8a



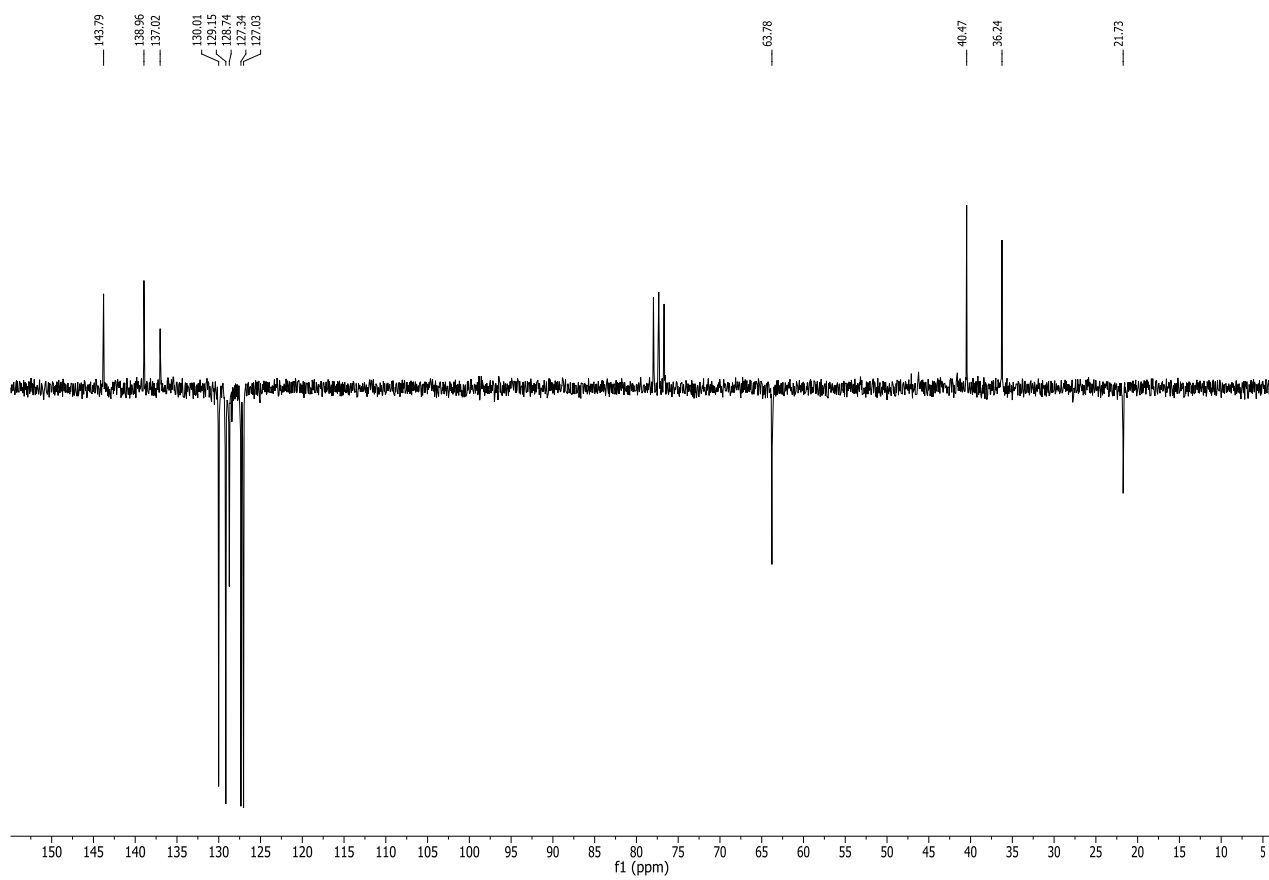
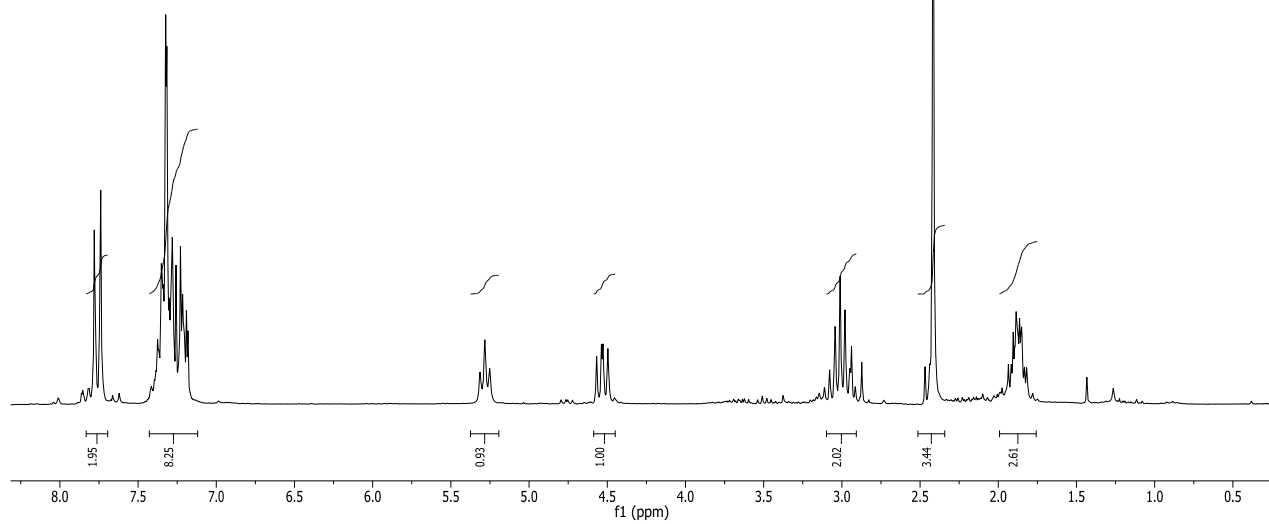


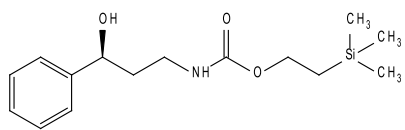
S-10a or R-10a



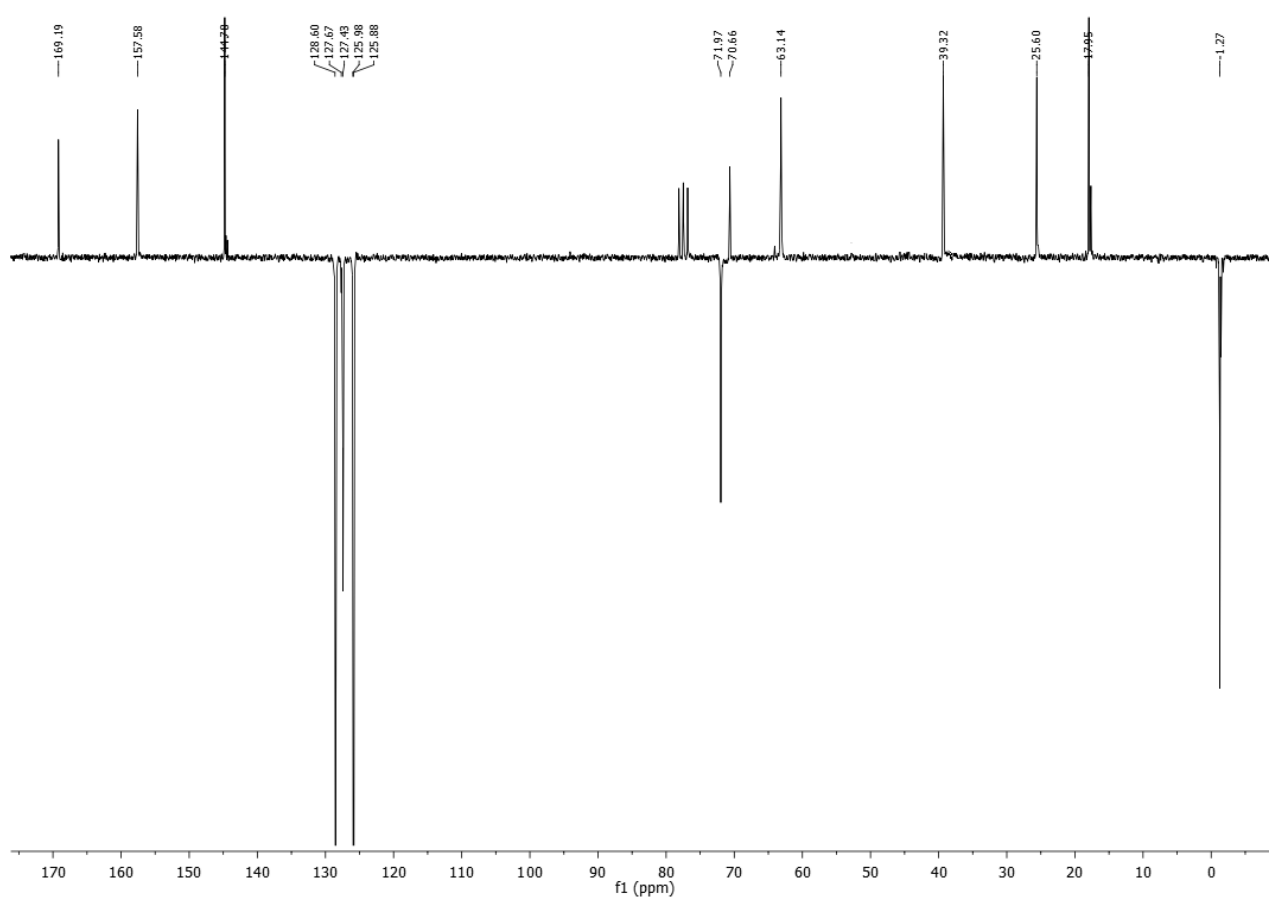
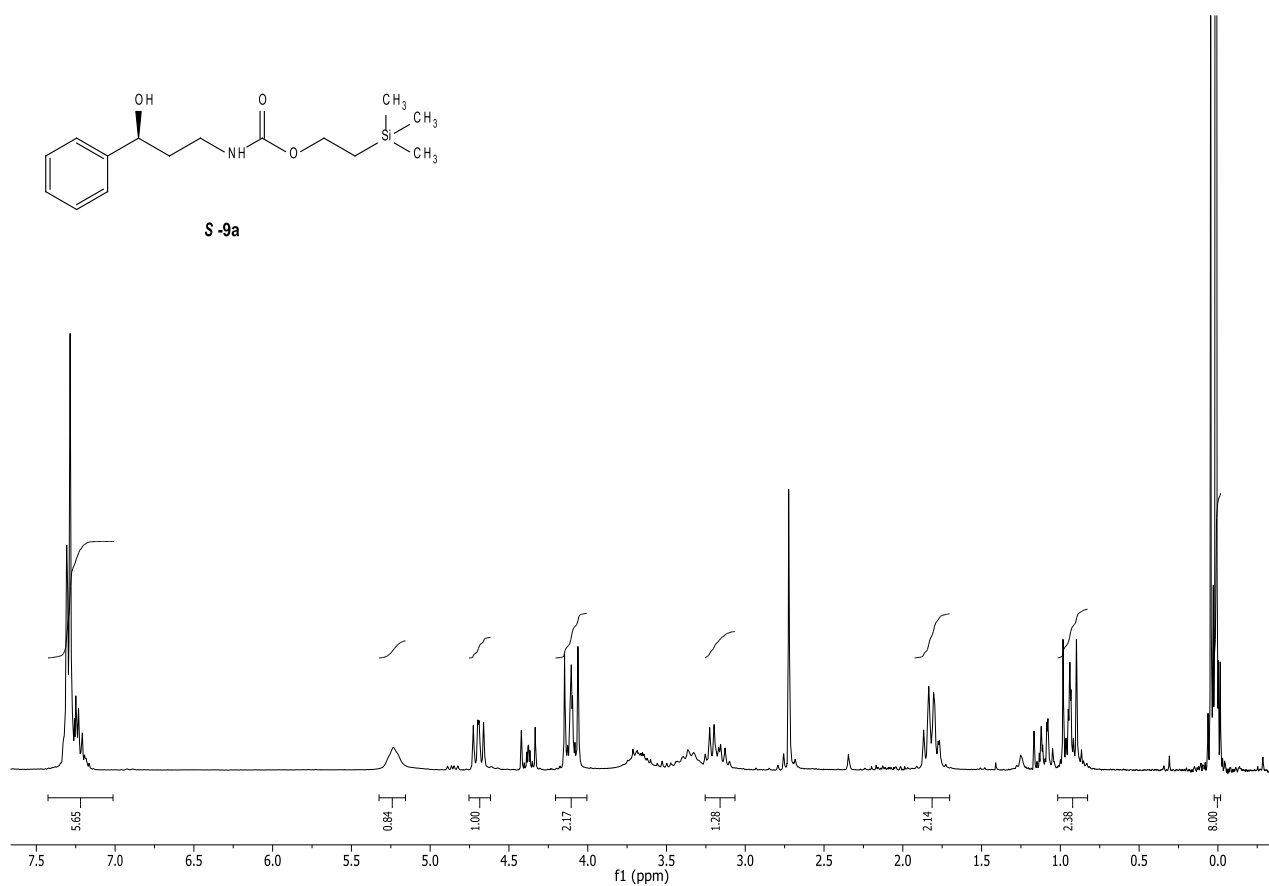


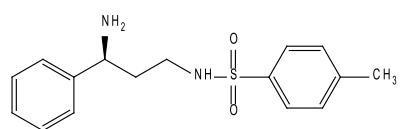
R-11a or S-11a



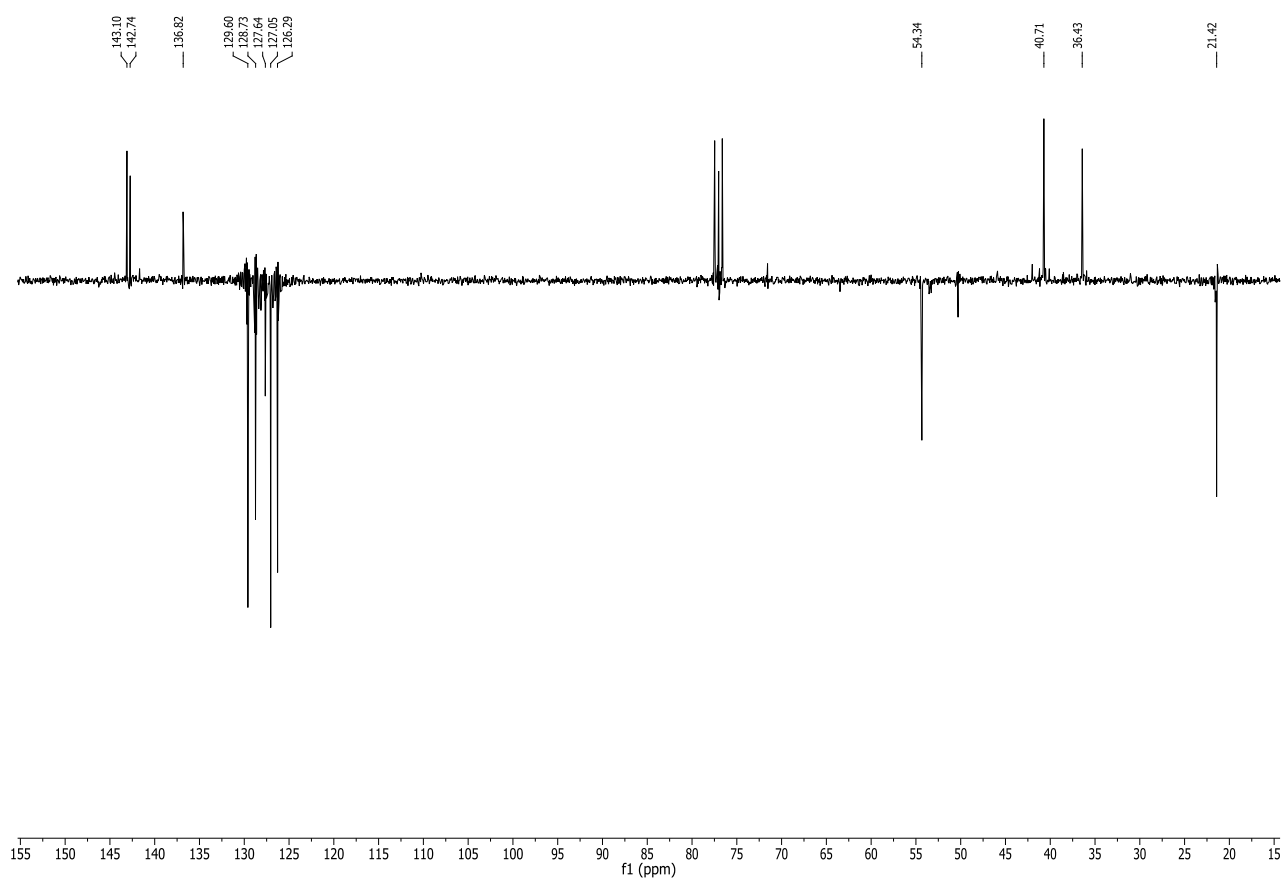
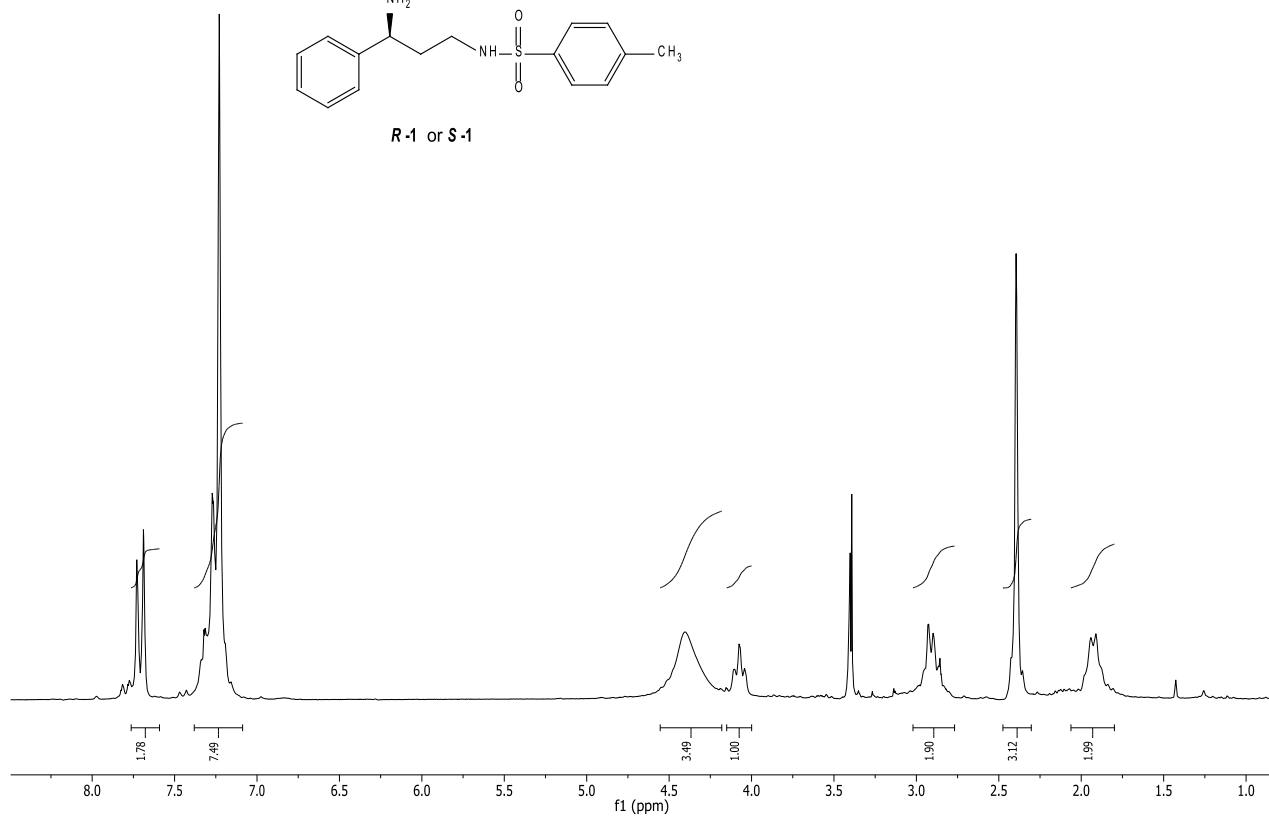


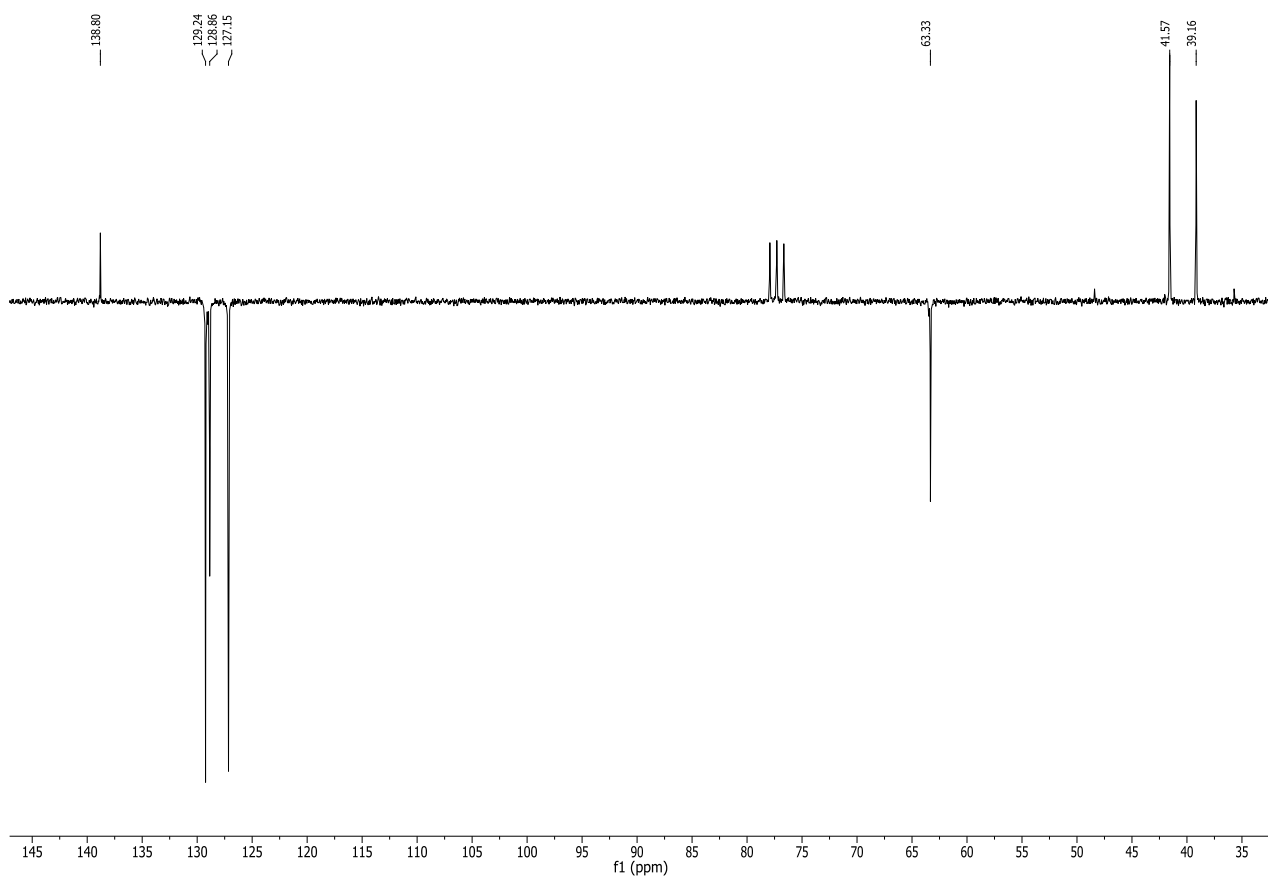
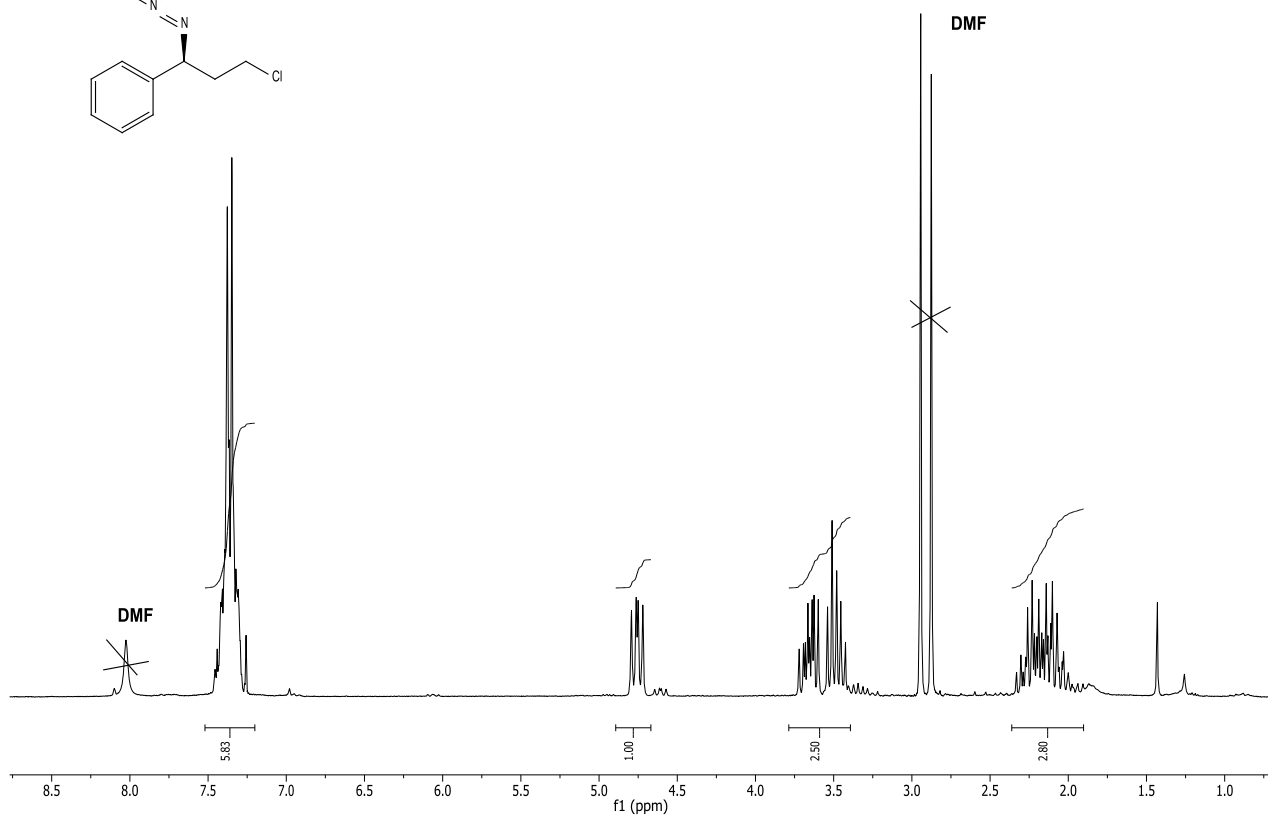
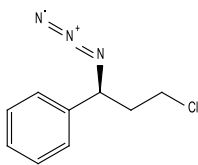
S-9a

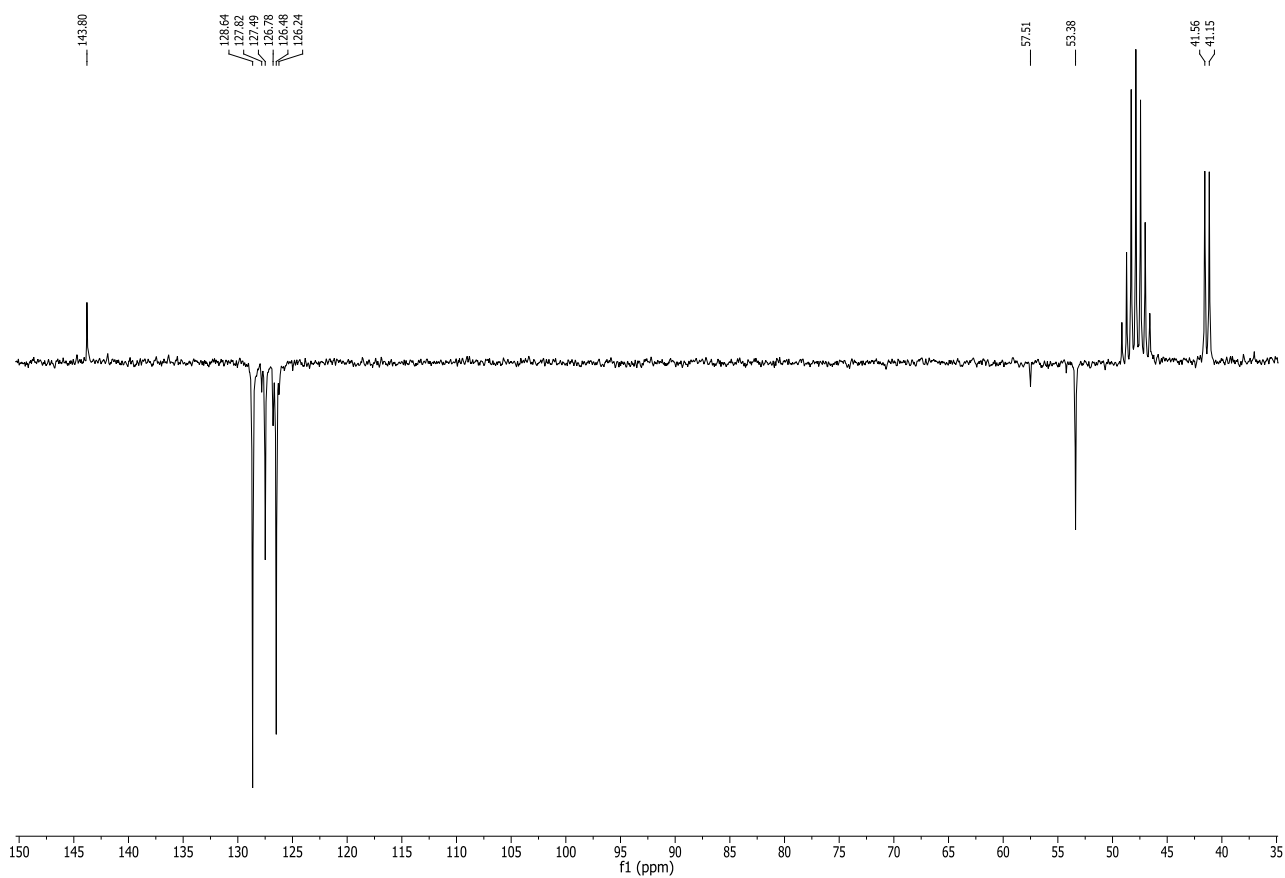
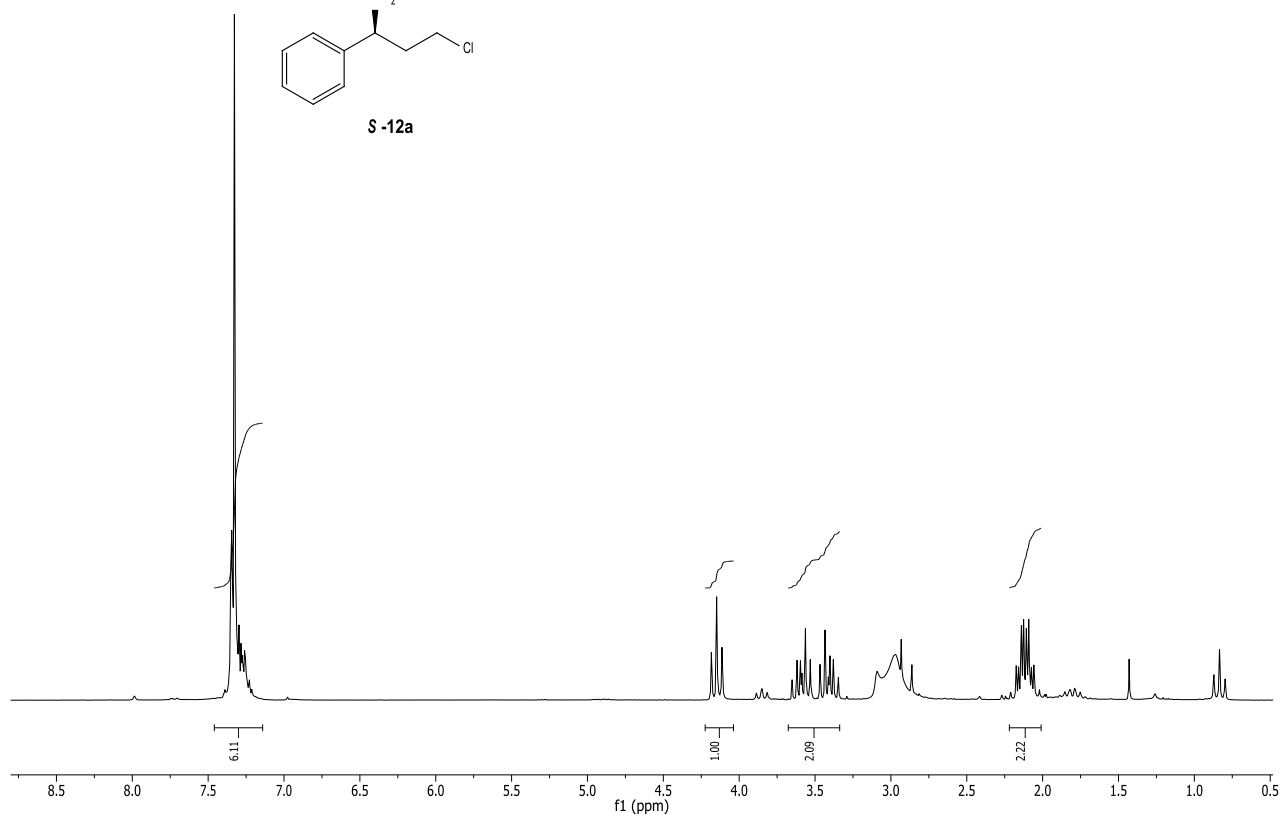
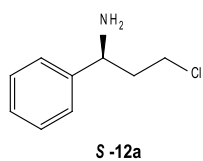


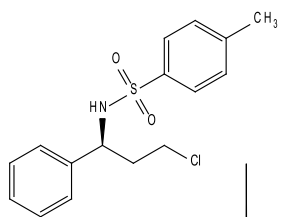


R-1 or *S*-1

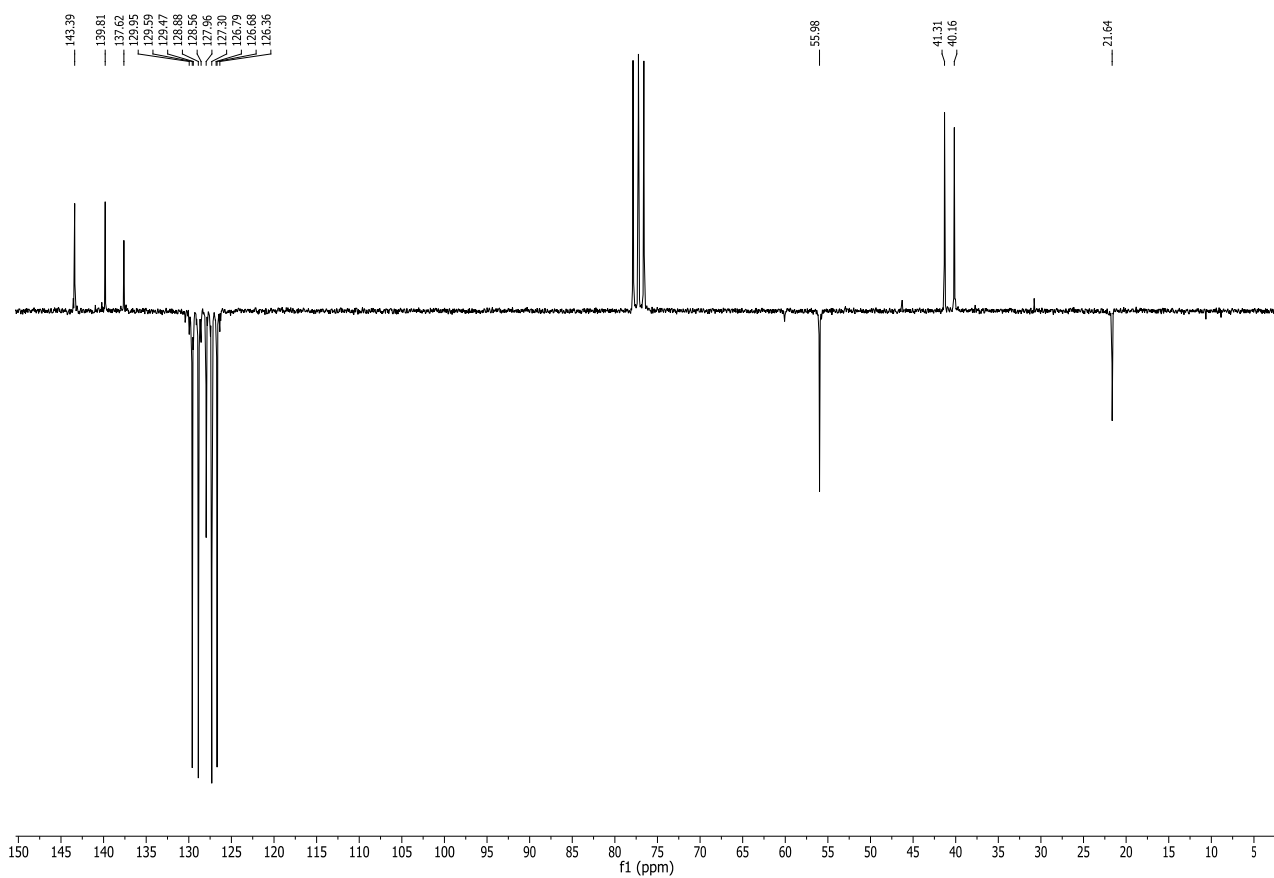
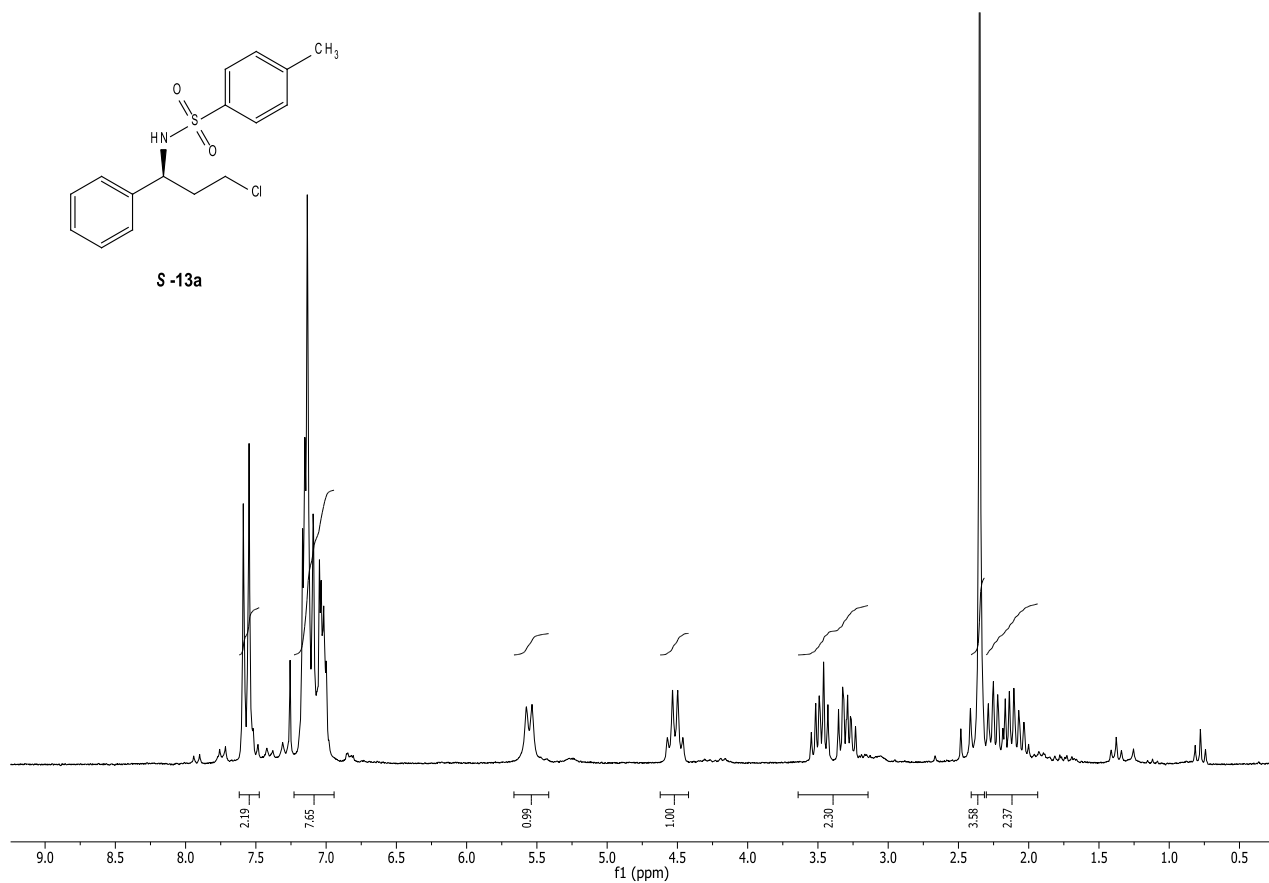


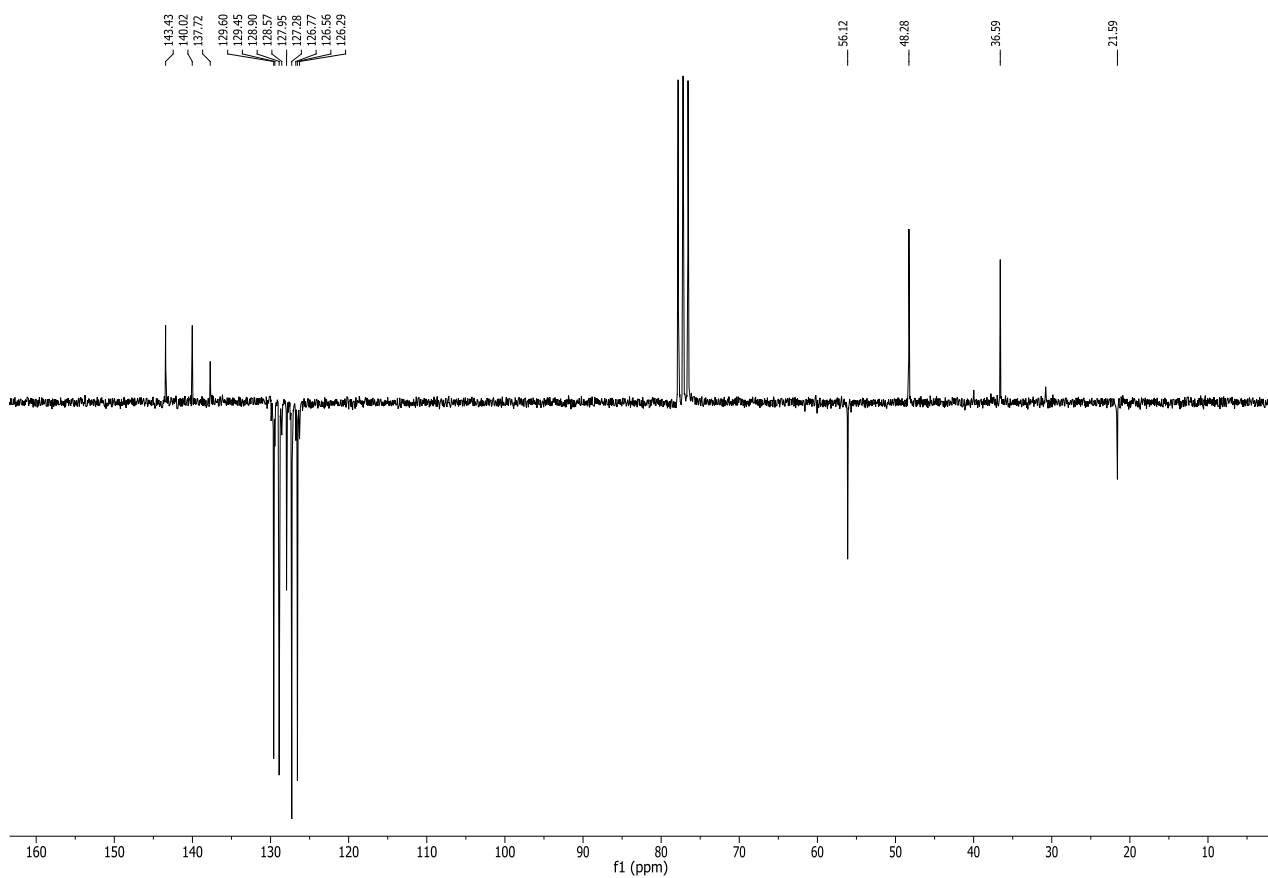
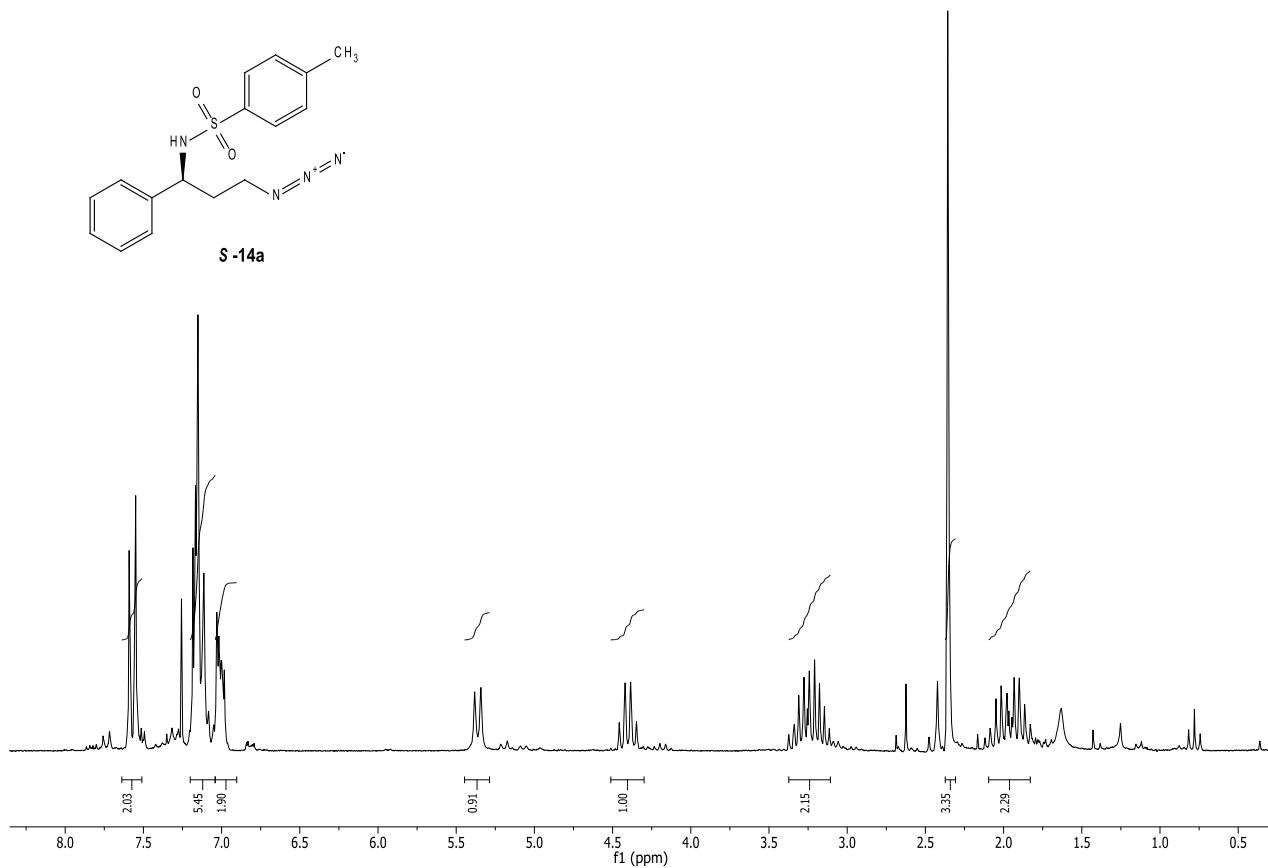
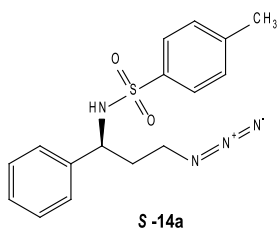


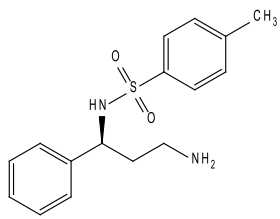




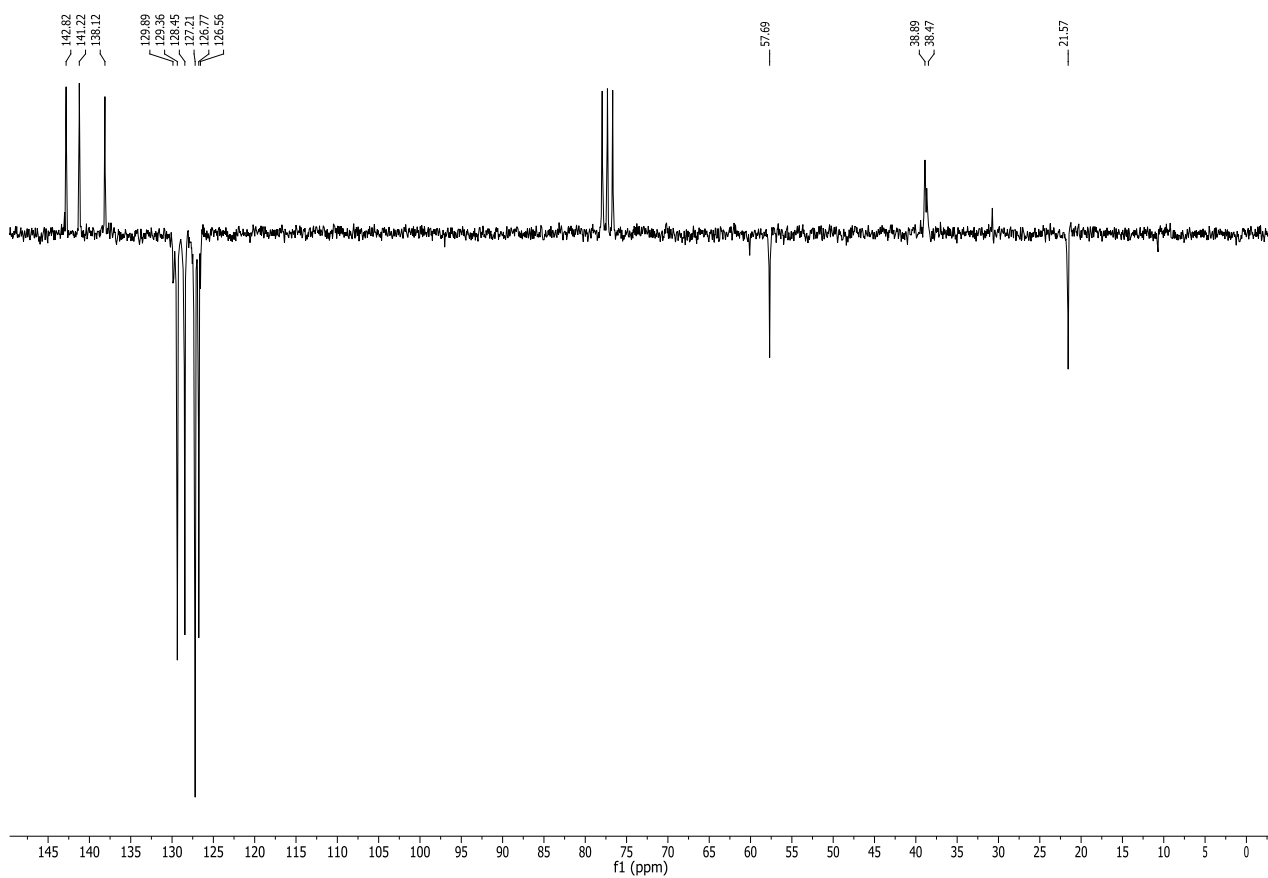
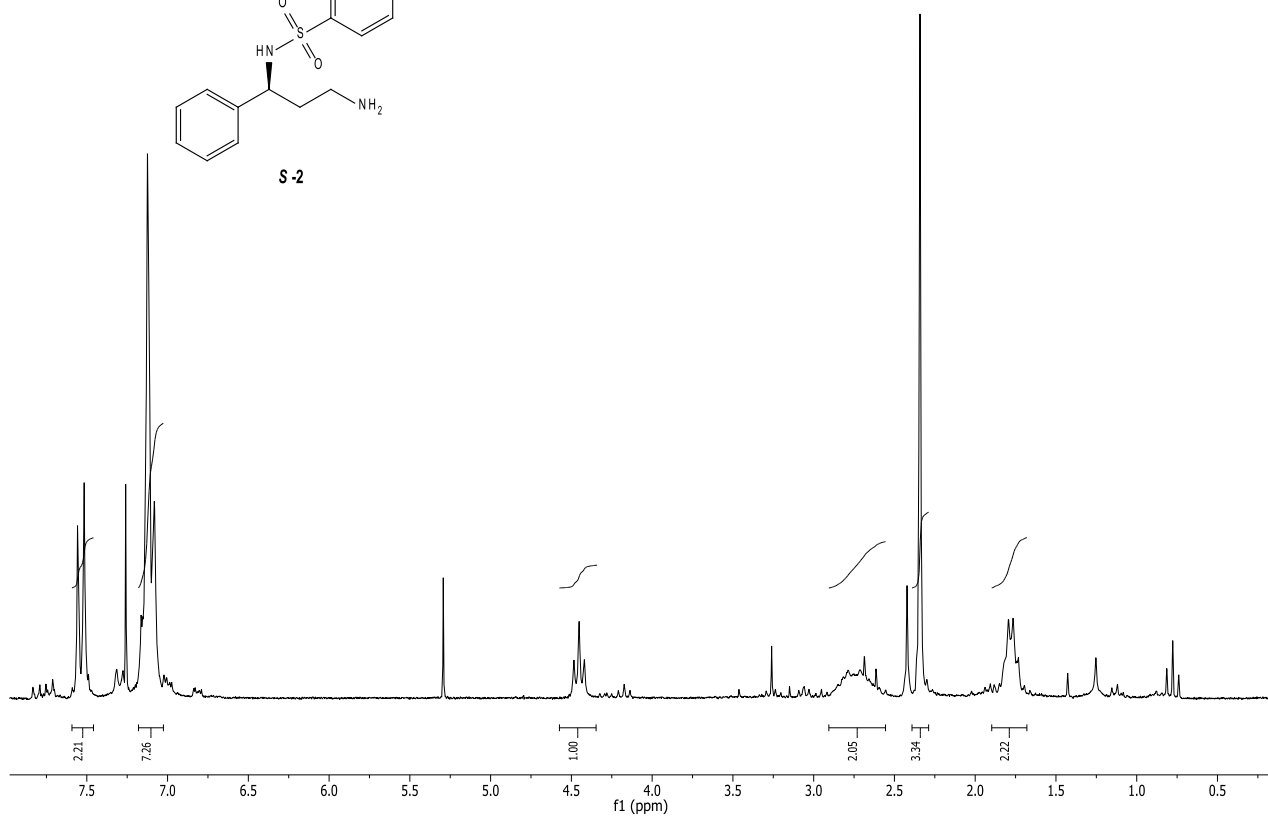
S-13a

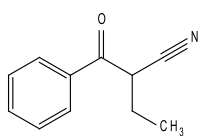




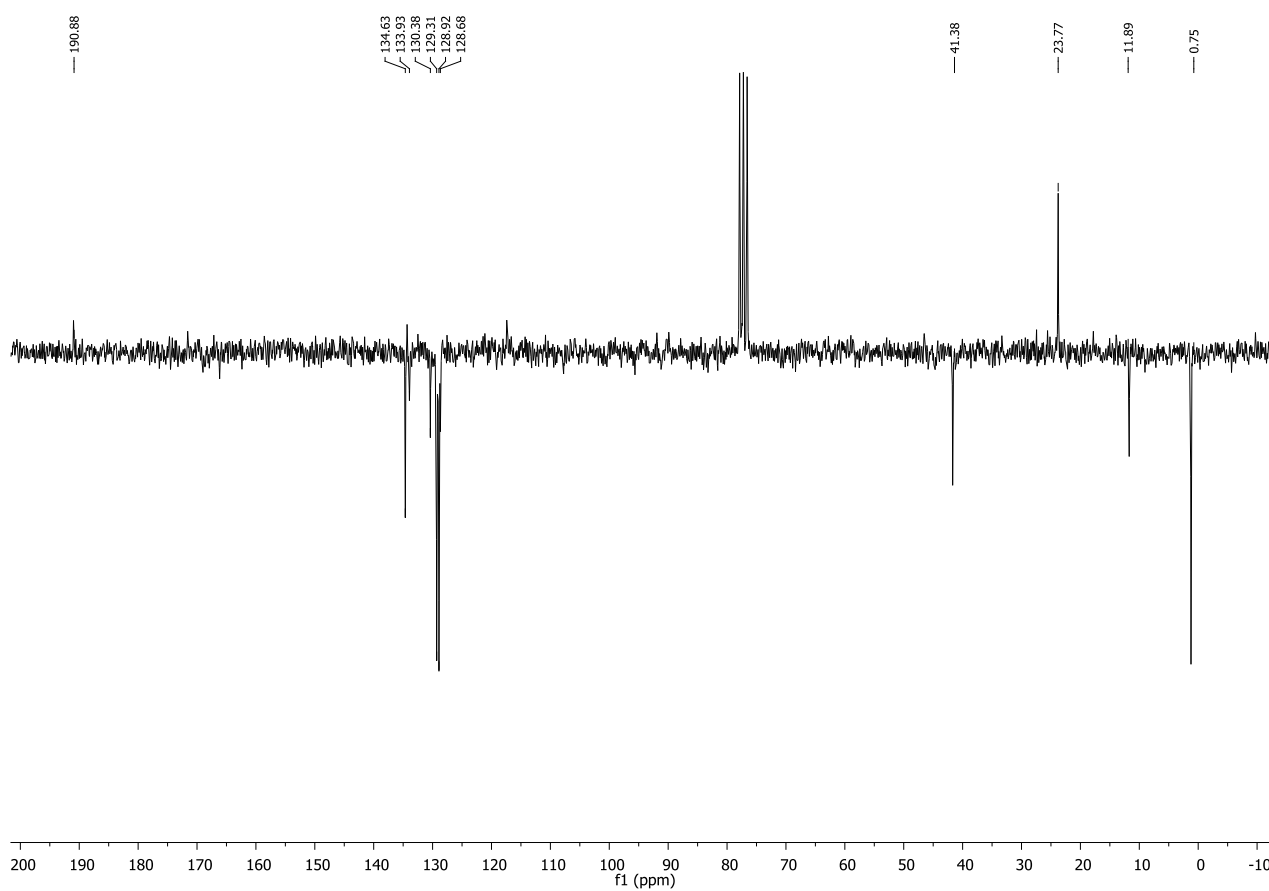
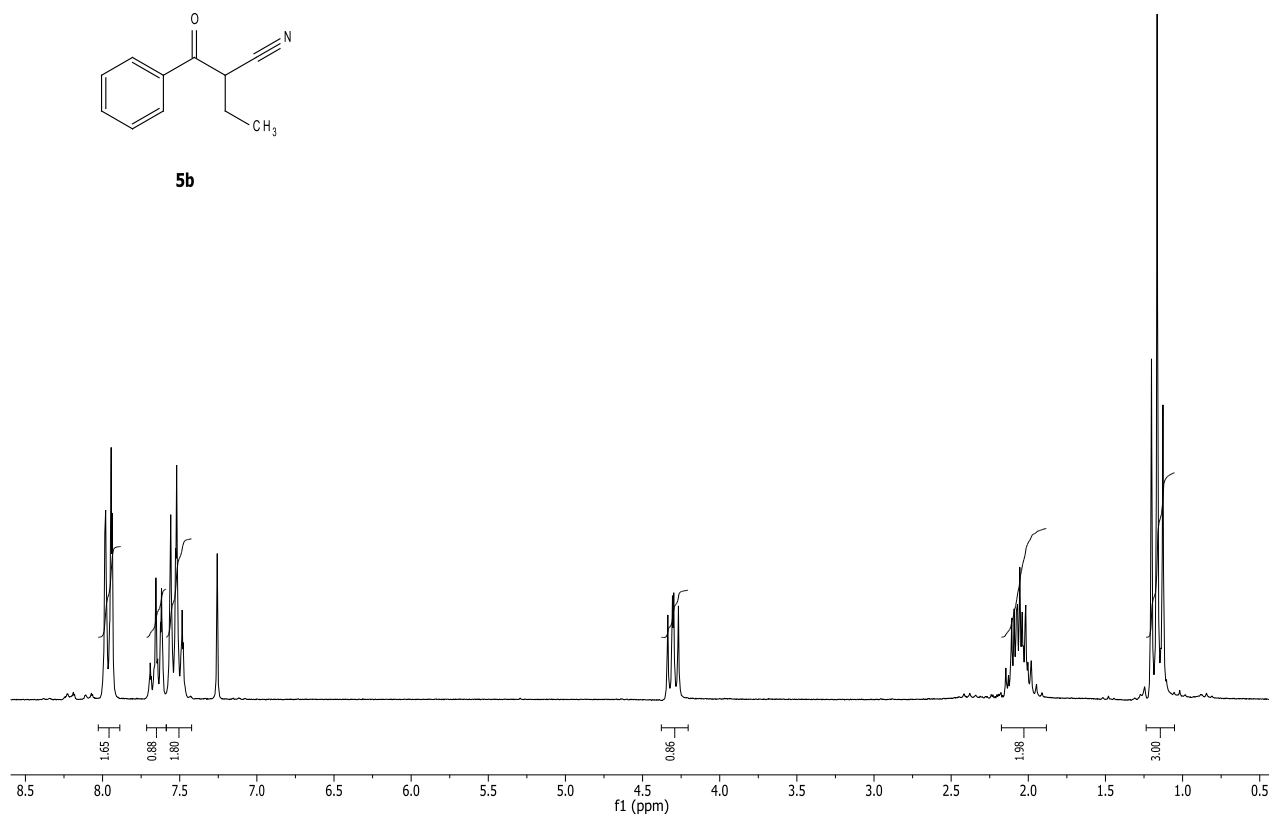


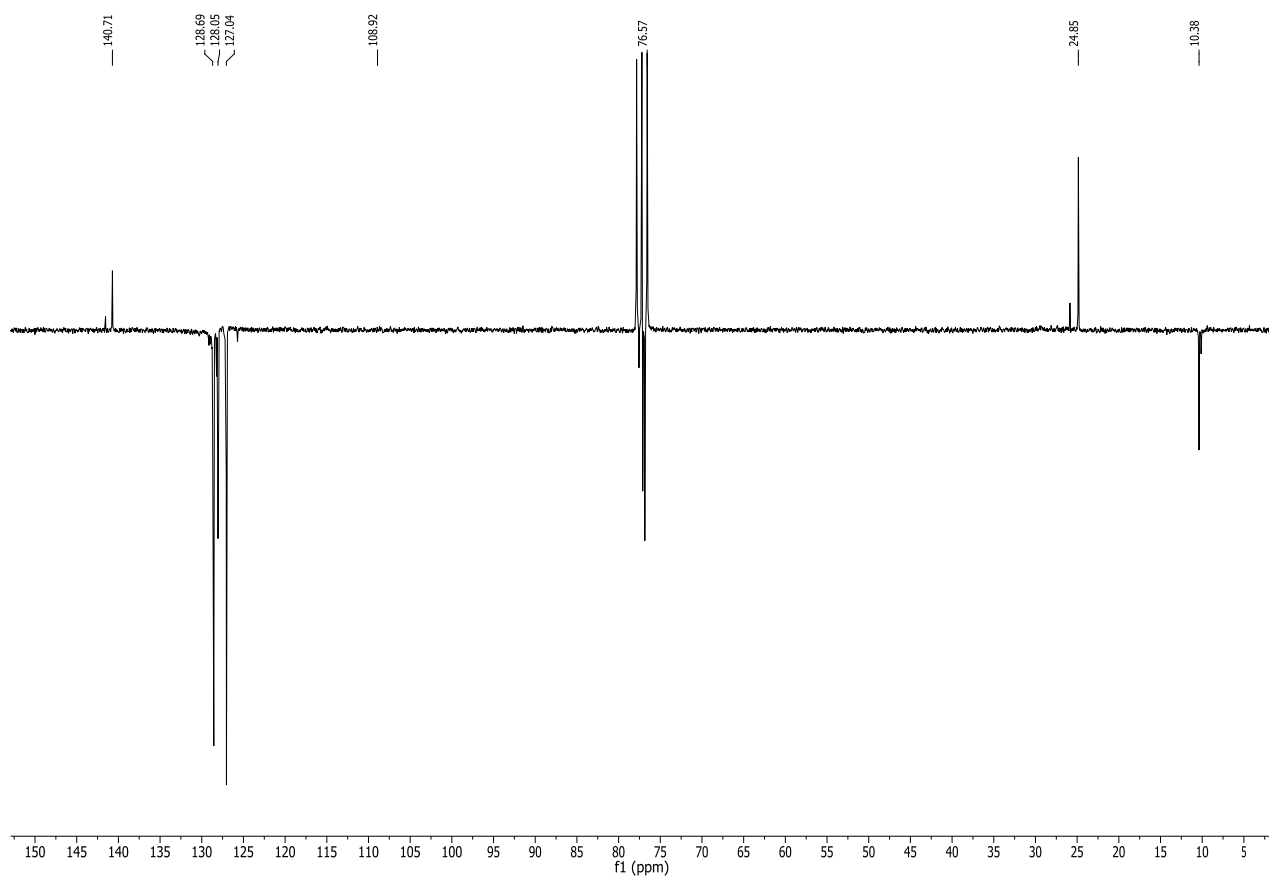
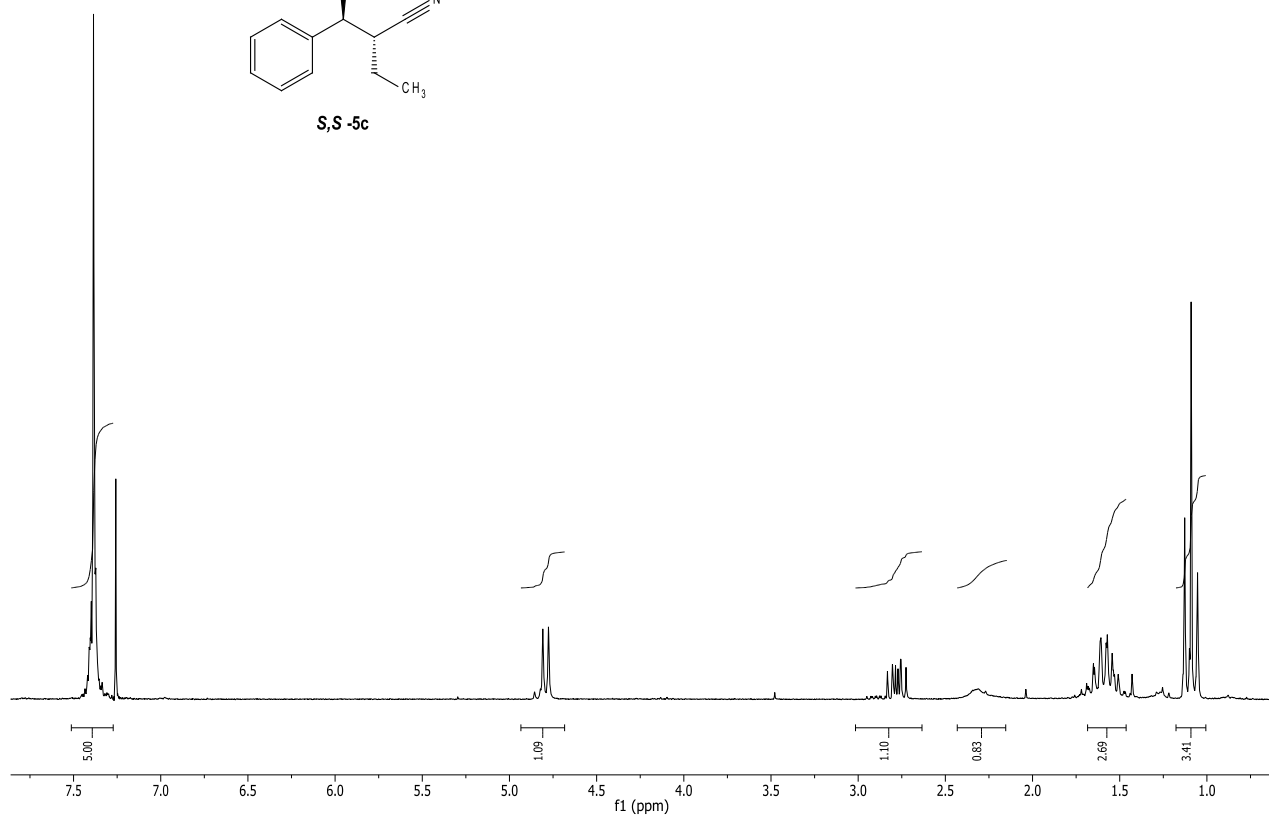
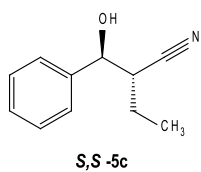
S-2



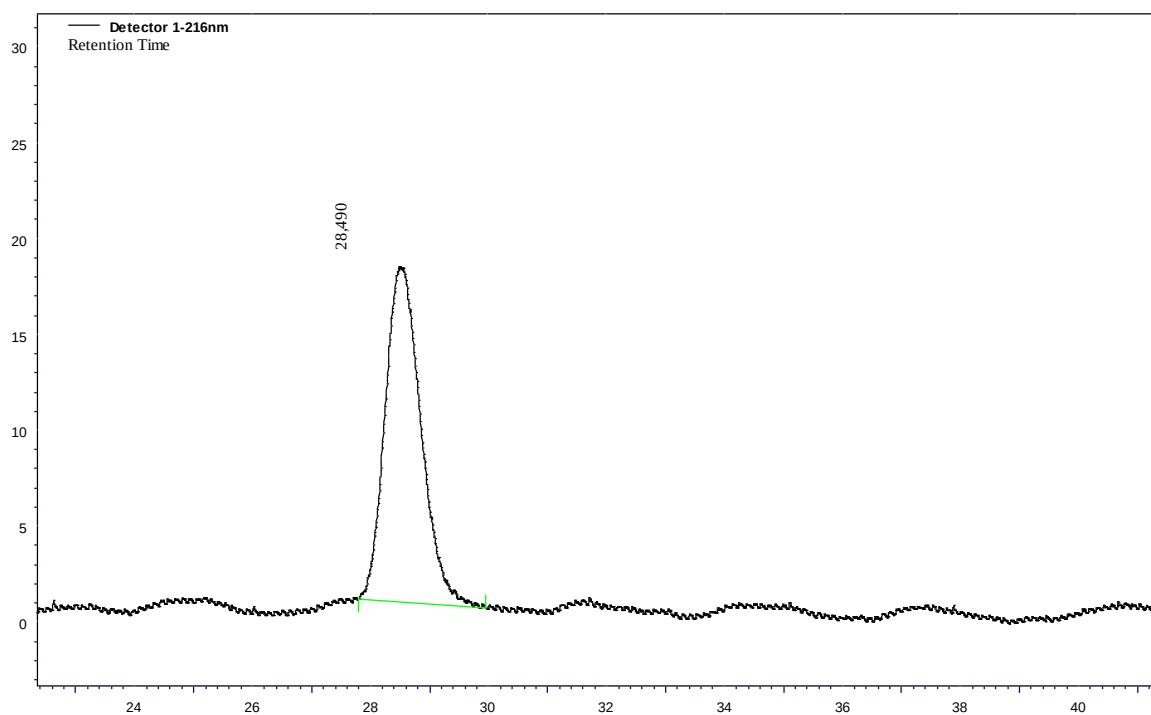
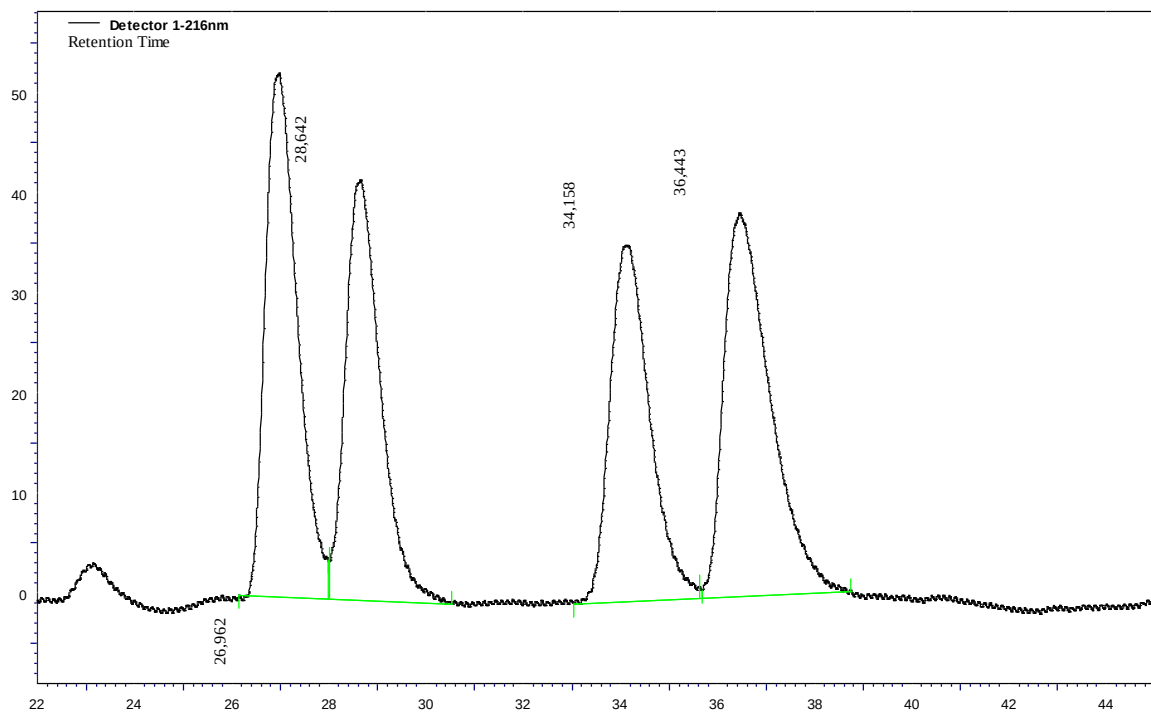


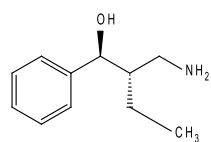
5b



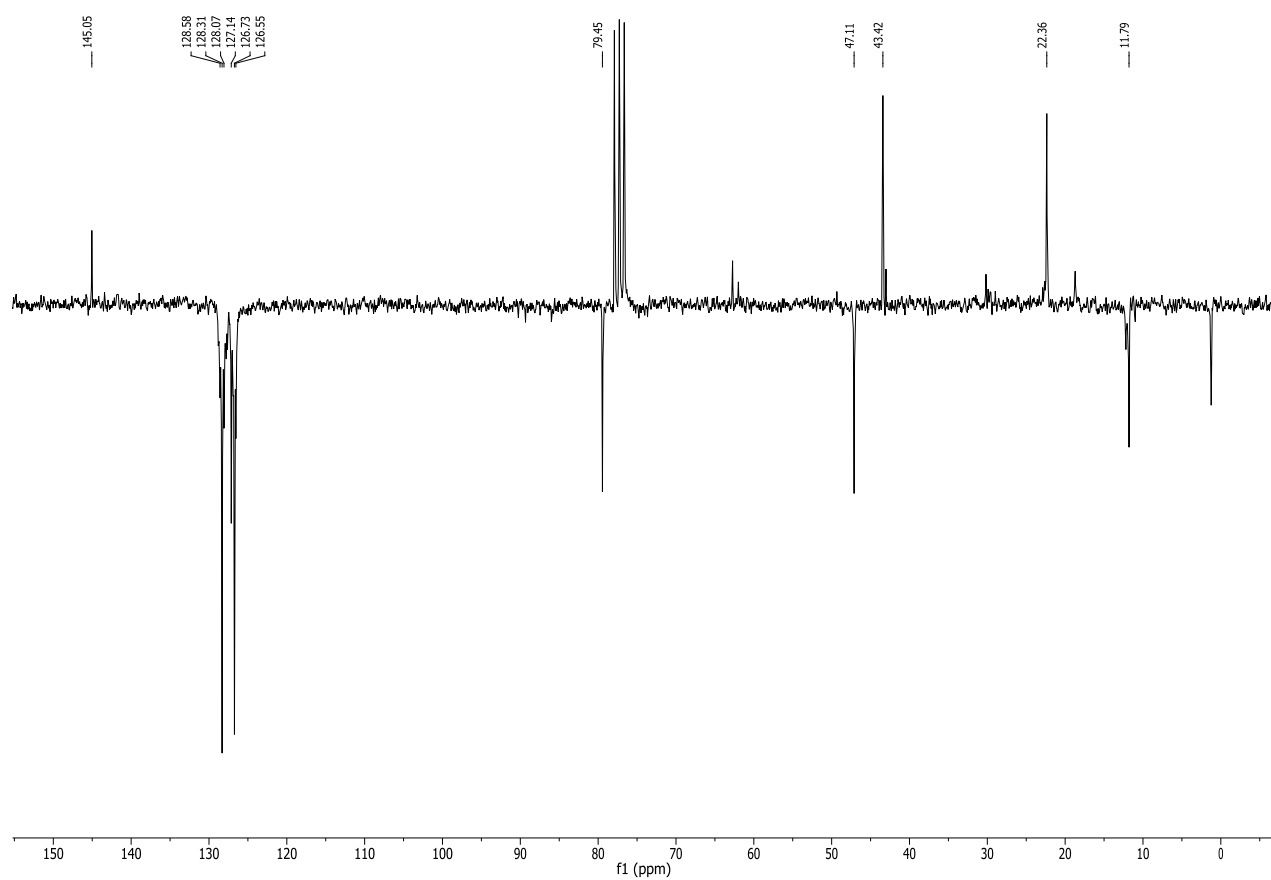
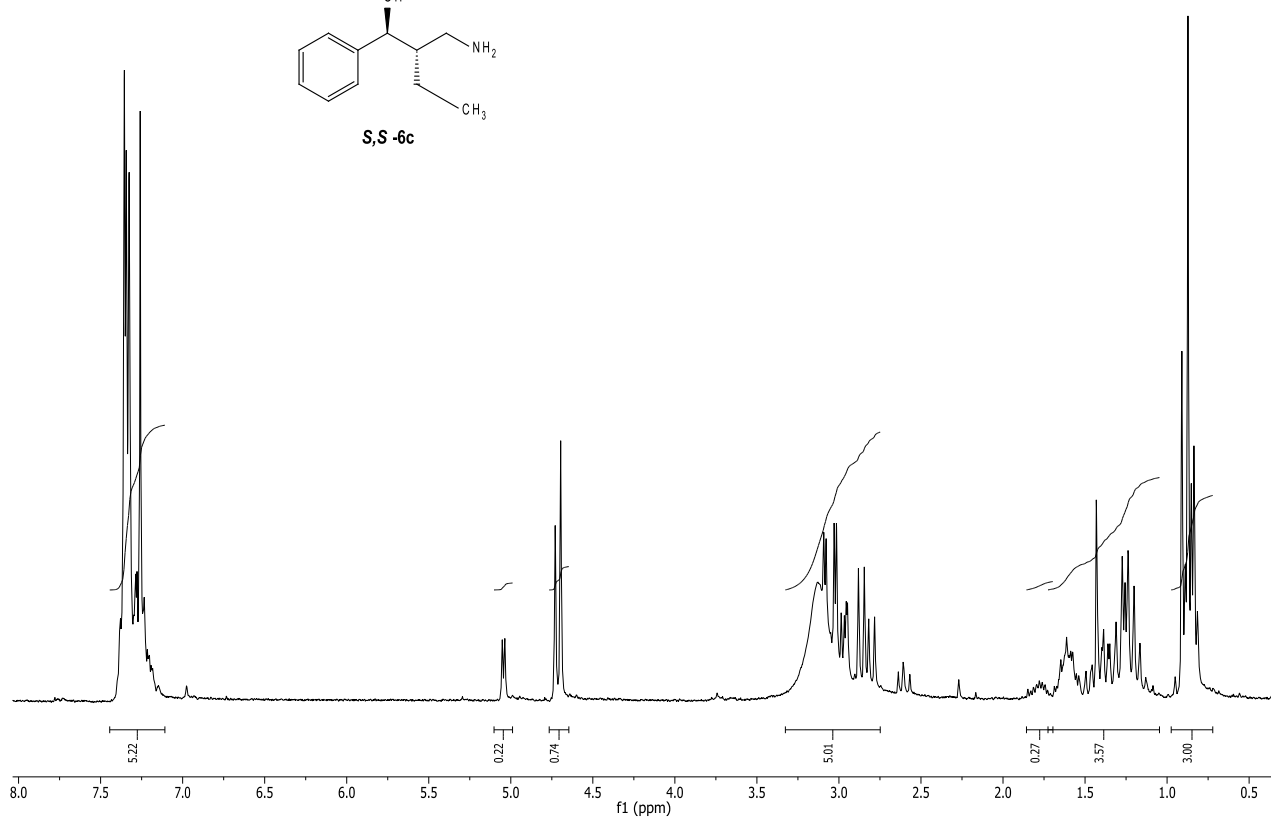


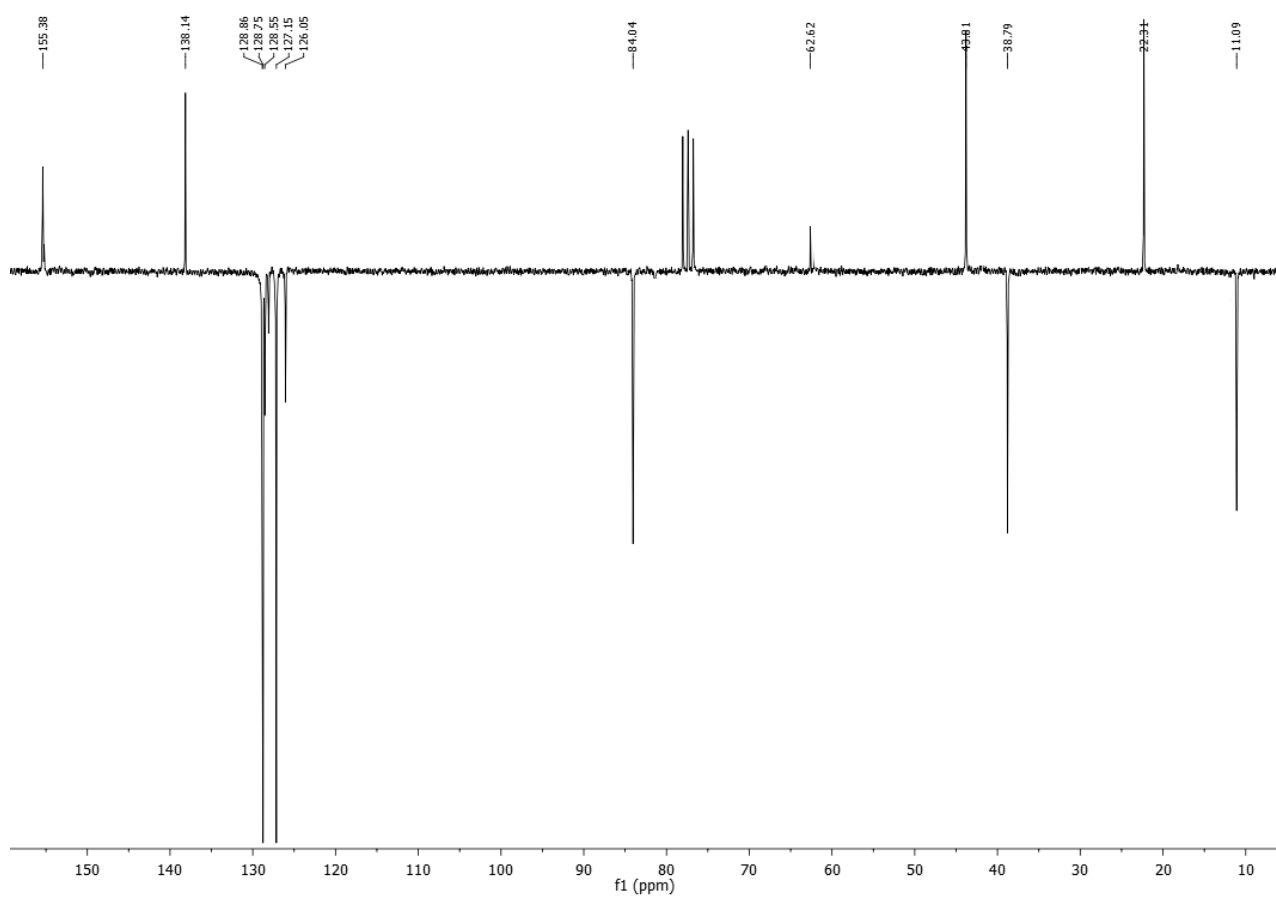
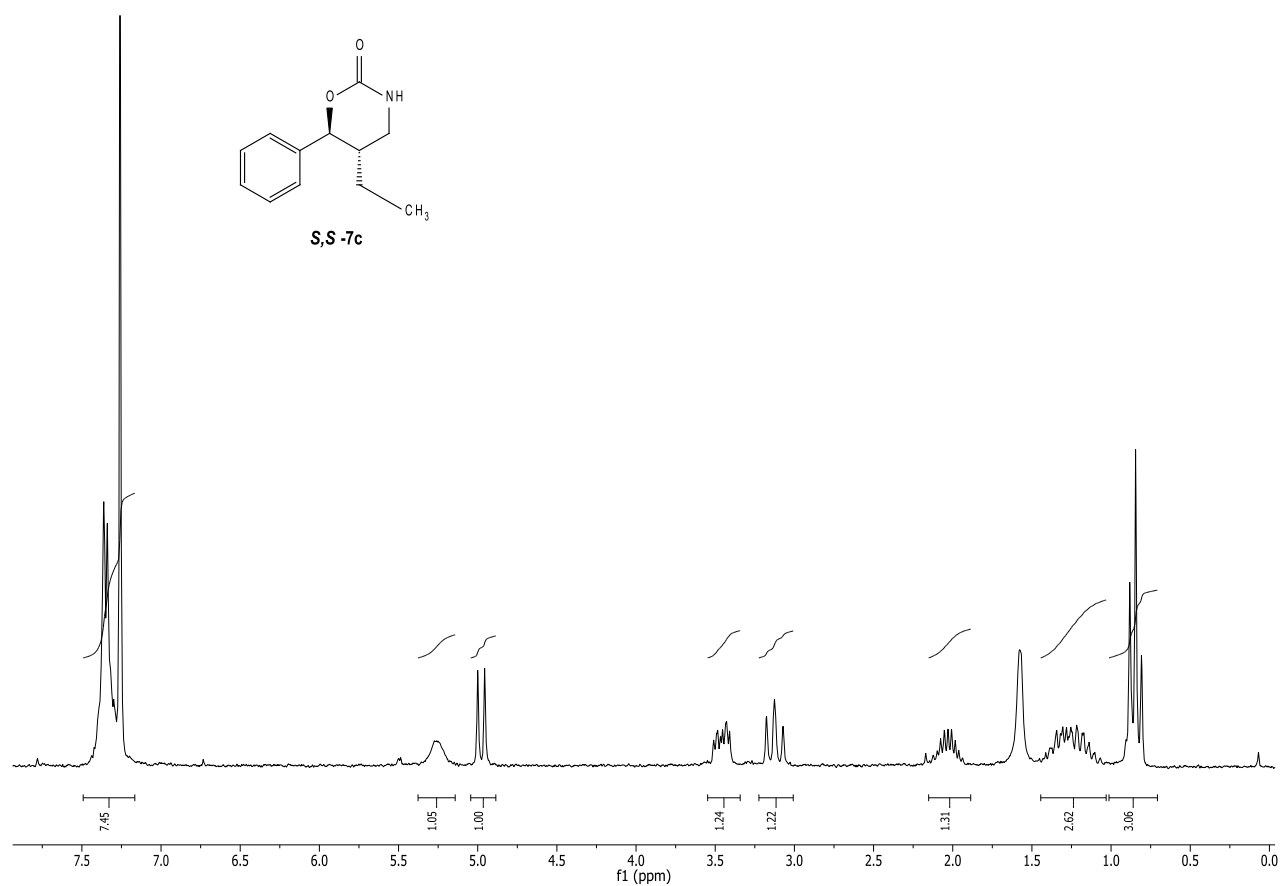
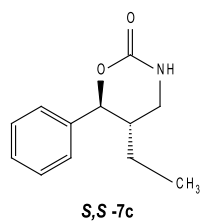
HPLC data for **5c**: OD-H Chiralcel, eluent: hexane: 2-propanol = 95:5, flow = 0.8 mL/min, λ = 216 nm; rt: (*R,S*) = 26.9 min, (*S,S*) = 28.6 min, (*S,R*) = 34.2 min, (*R,R*) = 36.4 min.

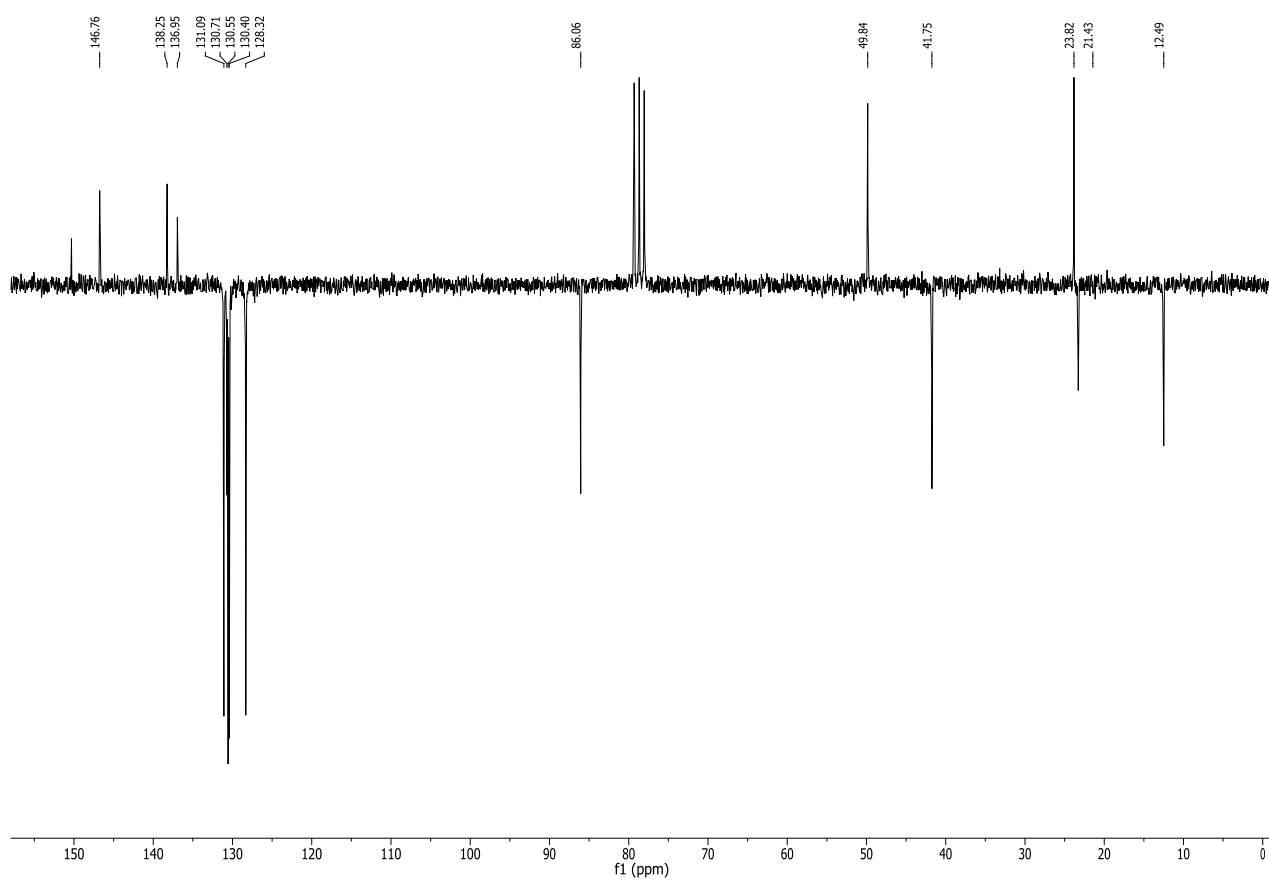
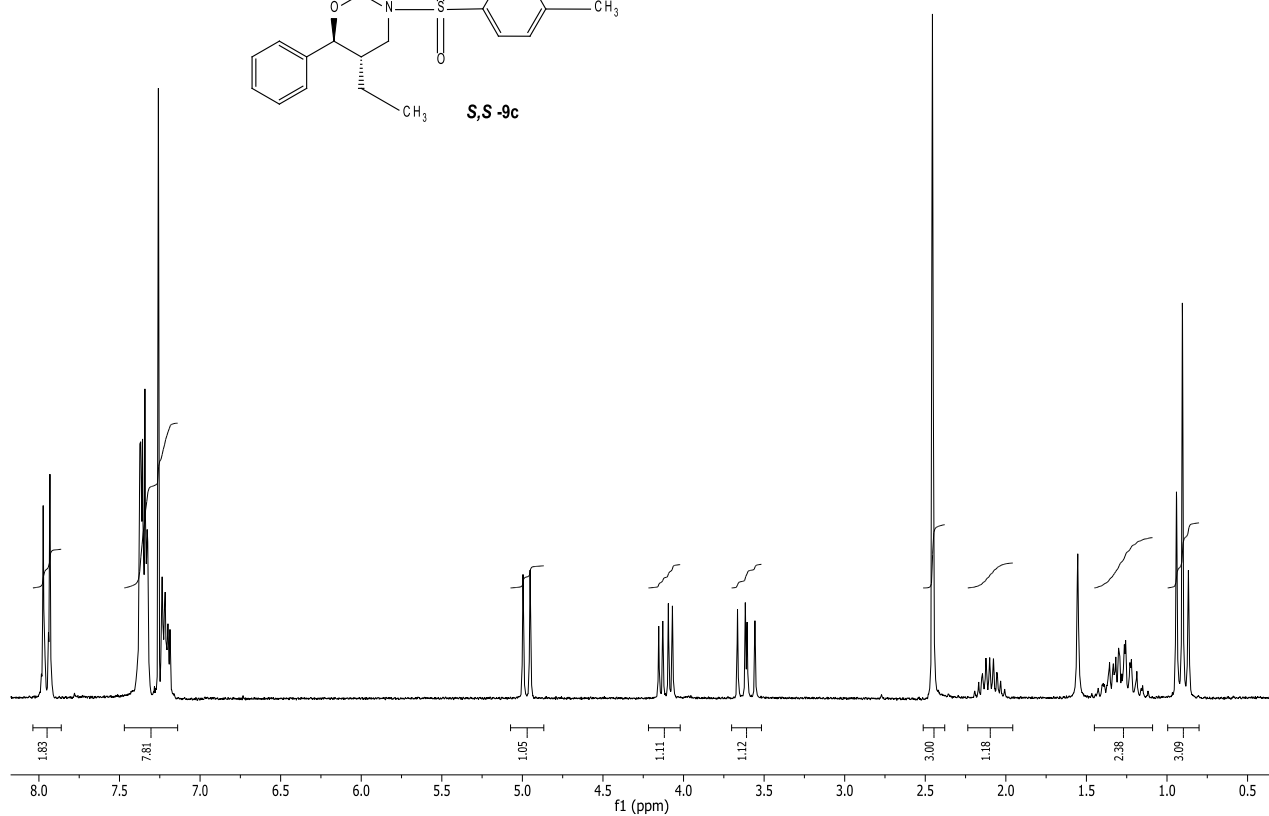
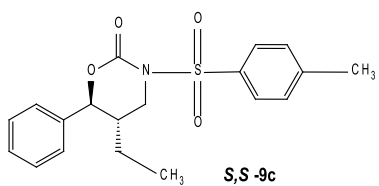


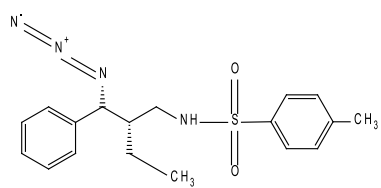


S,S-6c

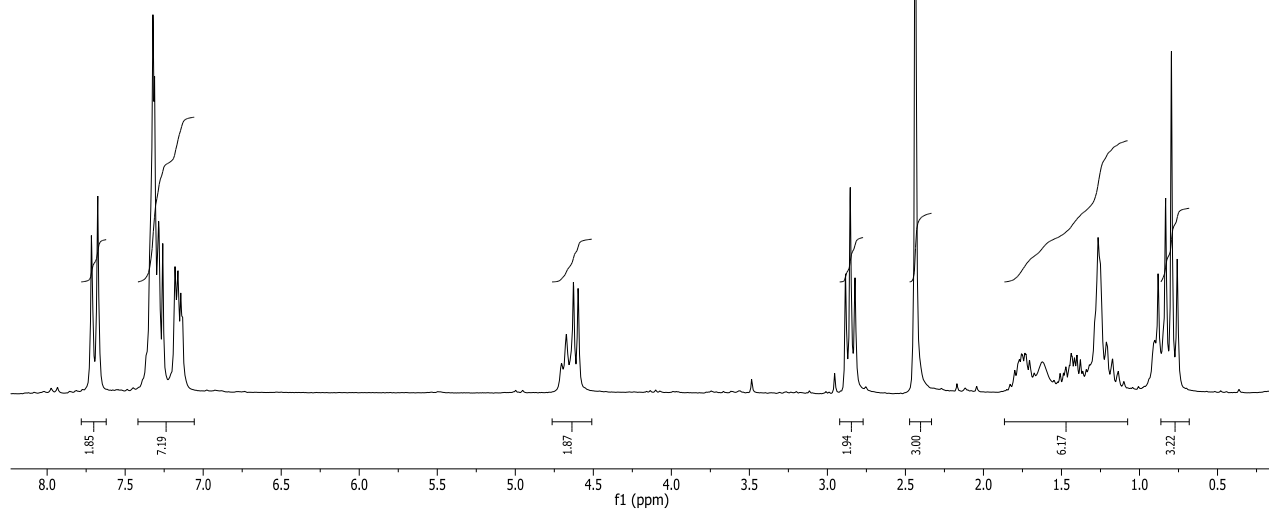




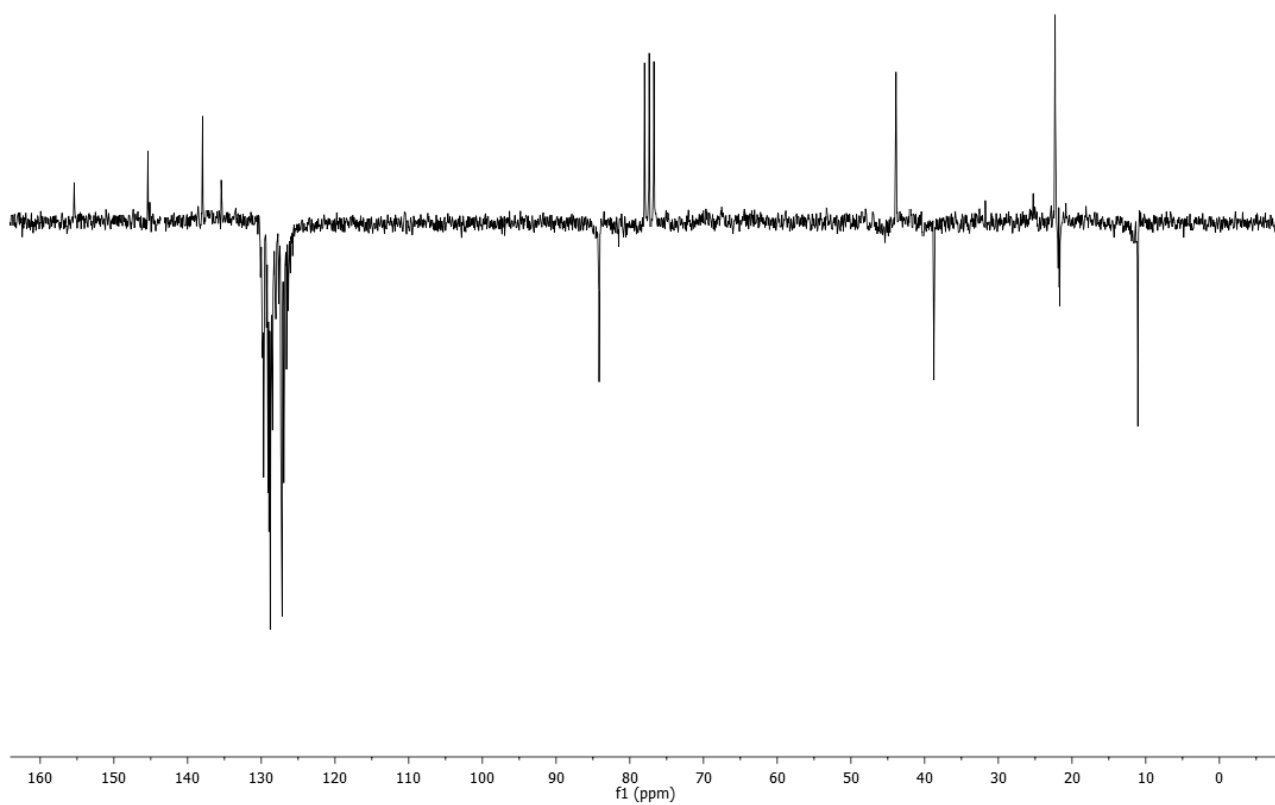


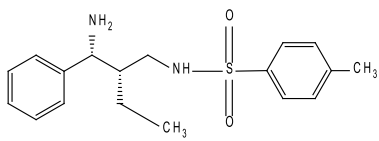


S,R-10c

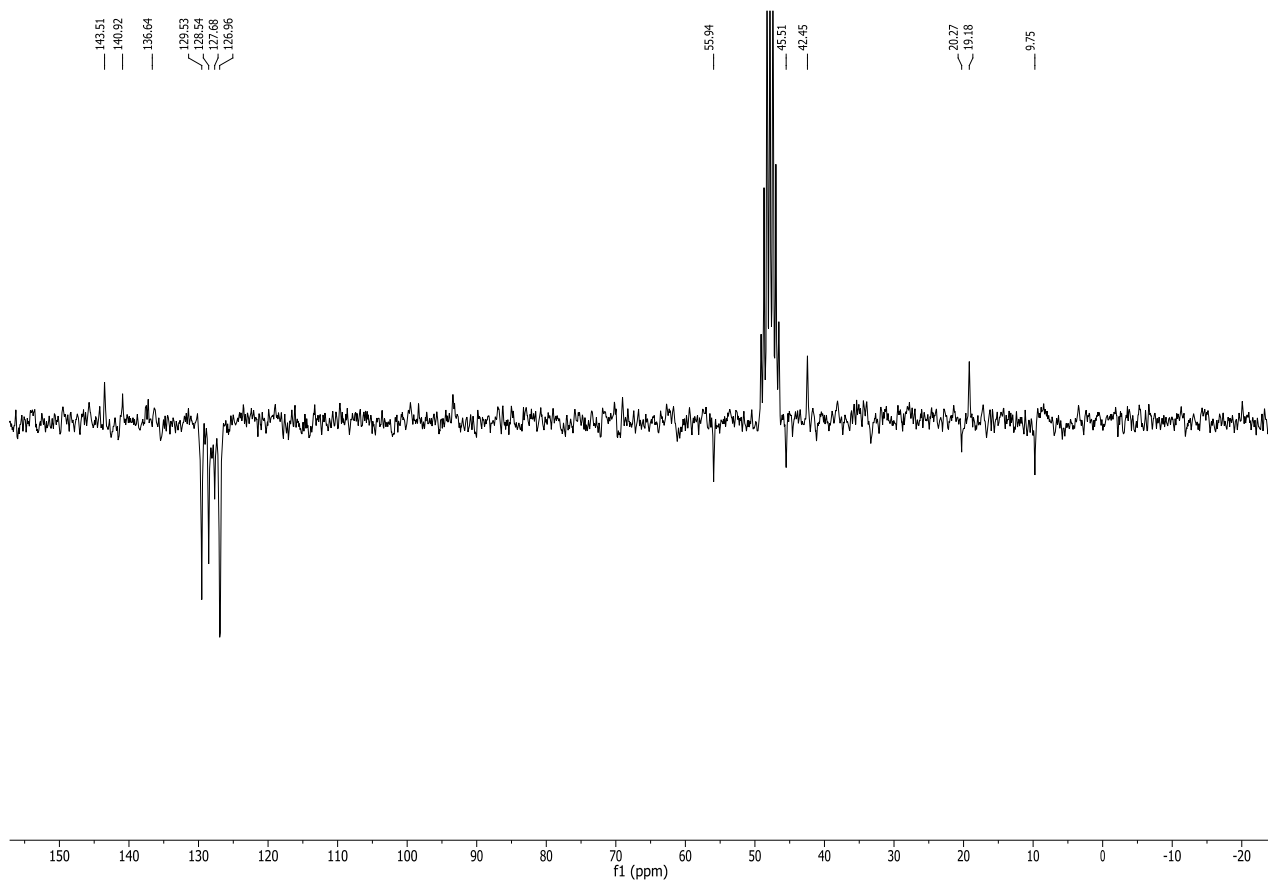
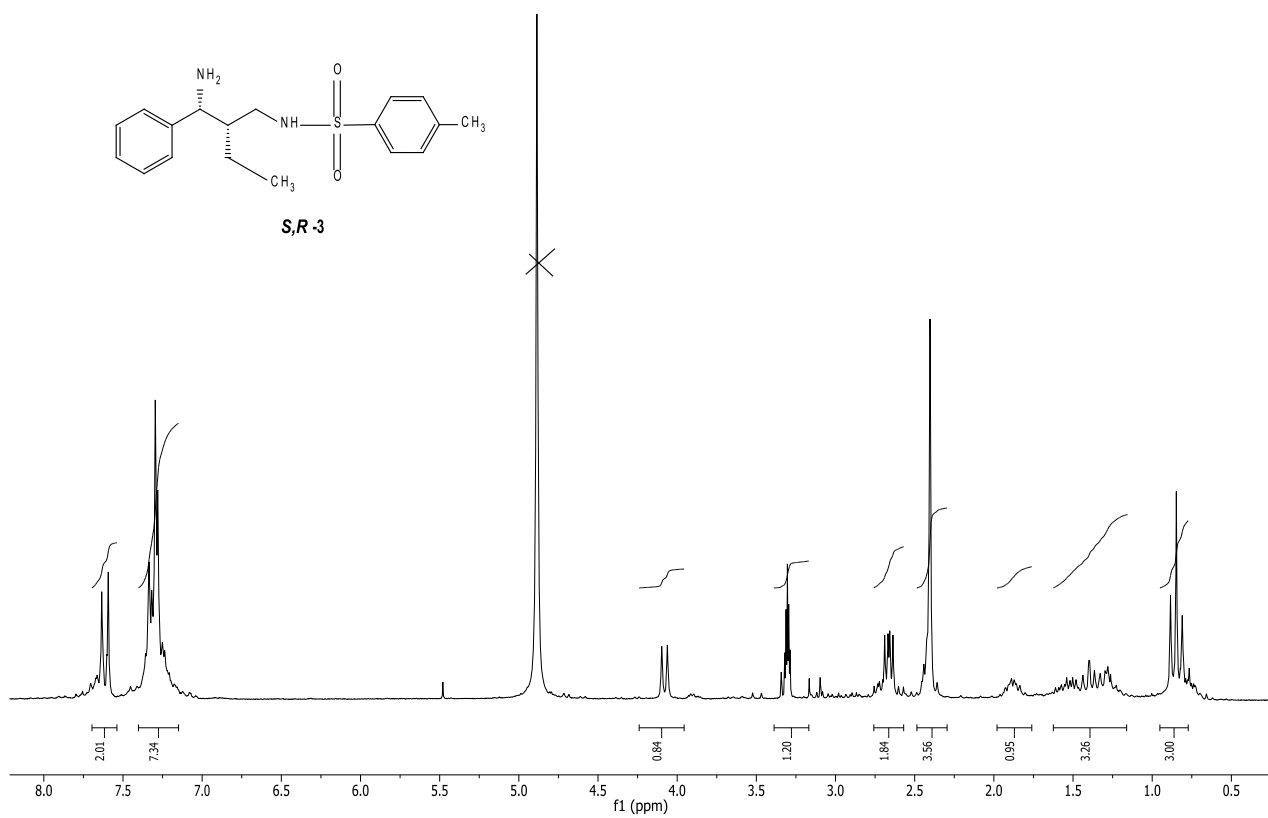


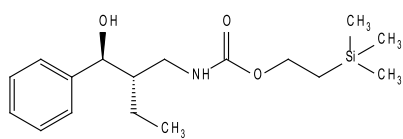
Chemical shifts (ppm): 155.39, 145.38, 137.97, 135.44, 129.79, 128.18, 128.94, 126.33, 126.05, 84.17, 43.88, 38.74, 21.95, 21.67, 11.07



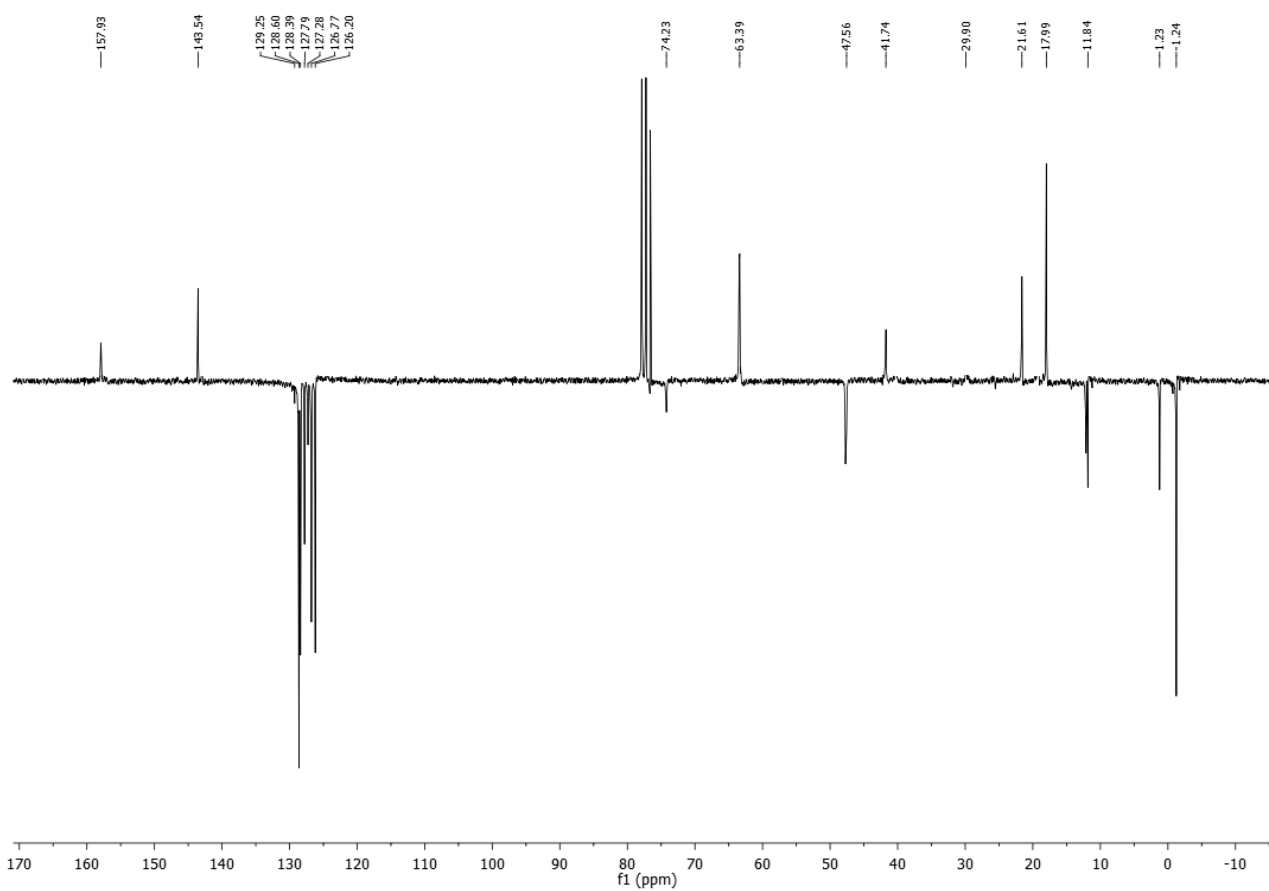
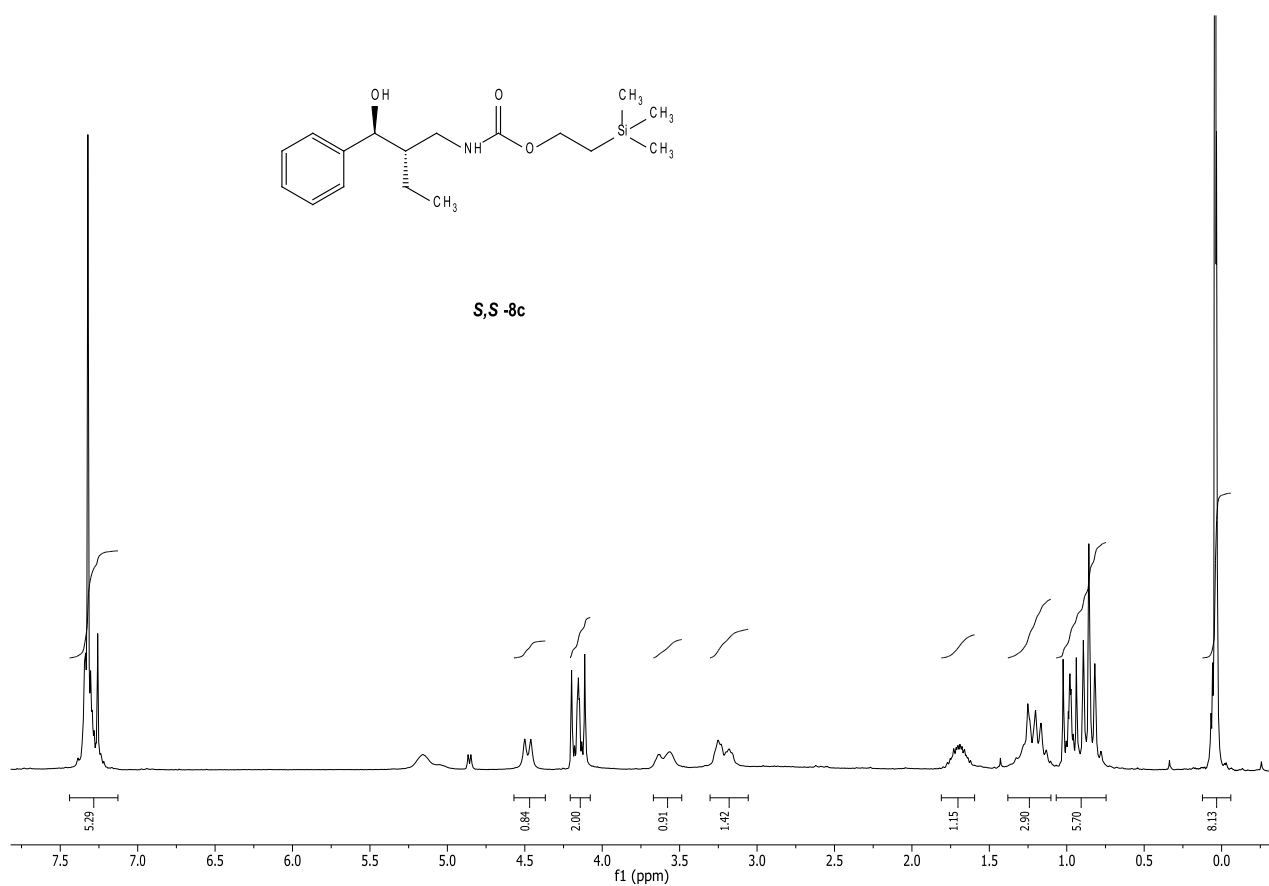


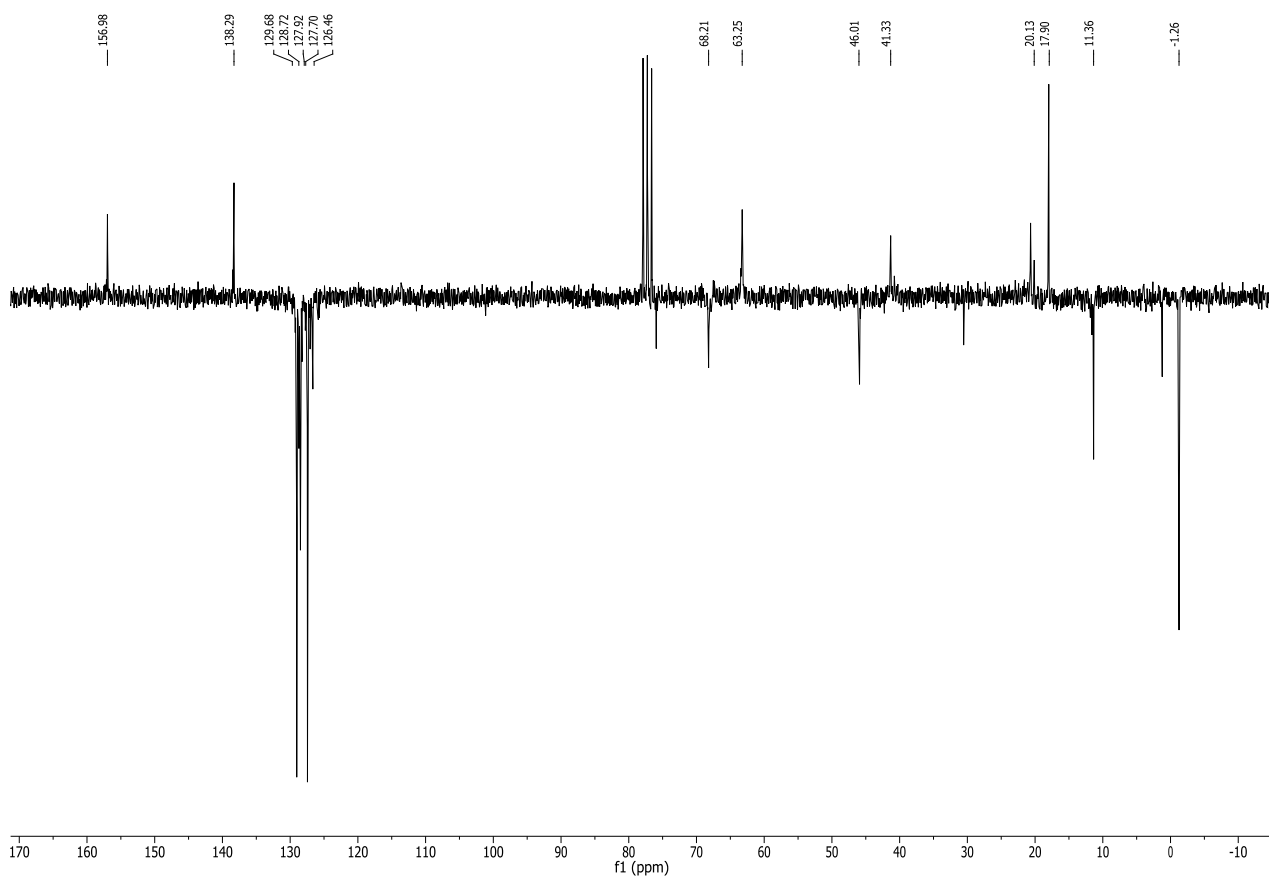
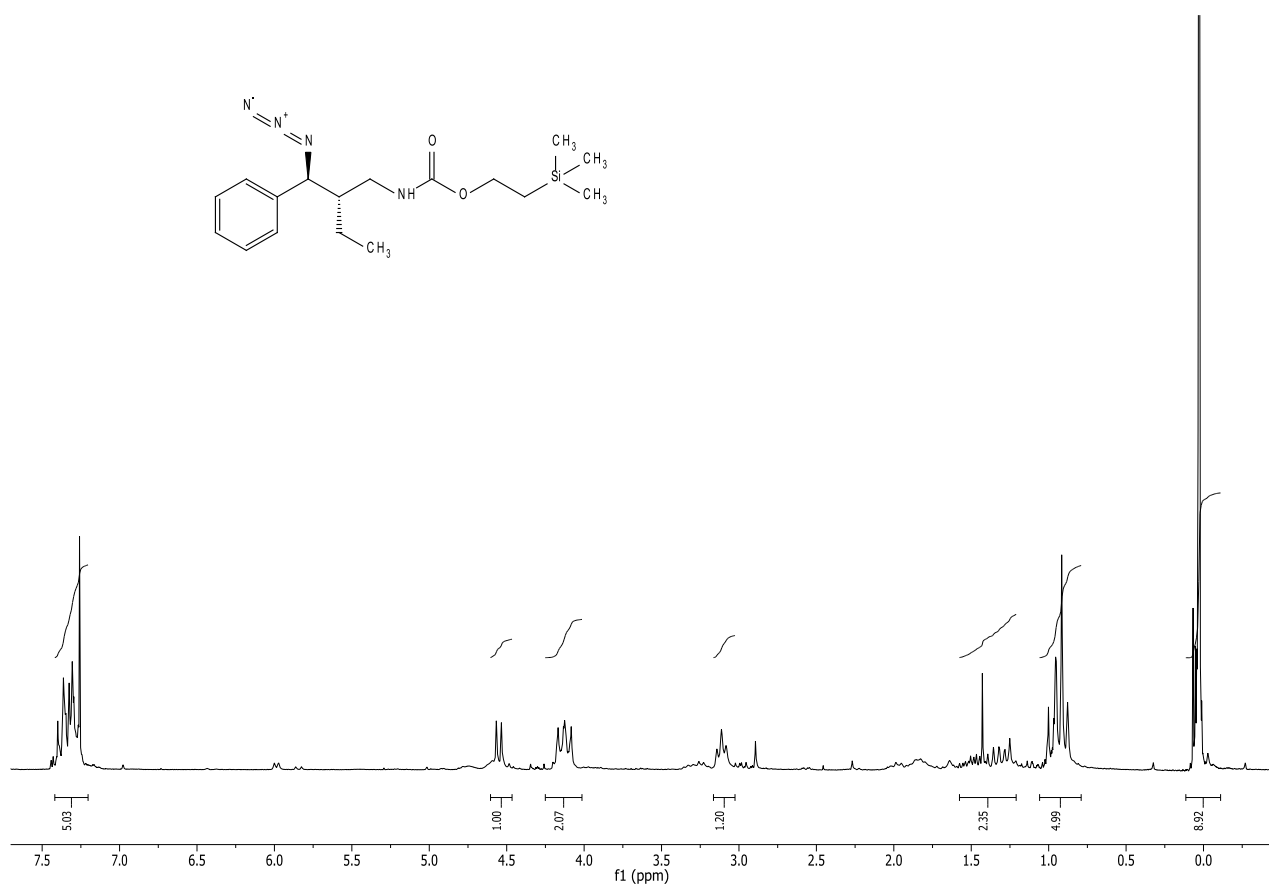
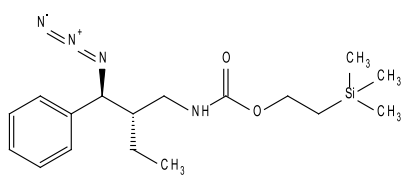
S,R-3

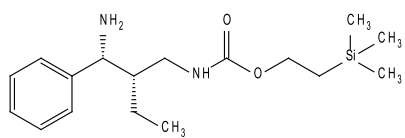




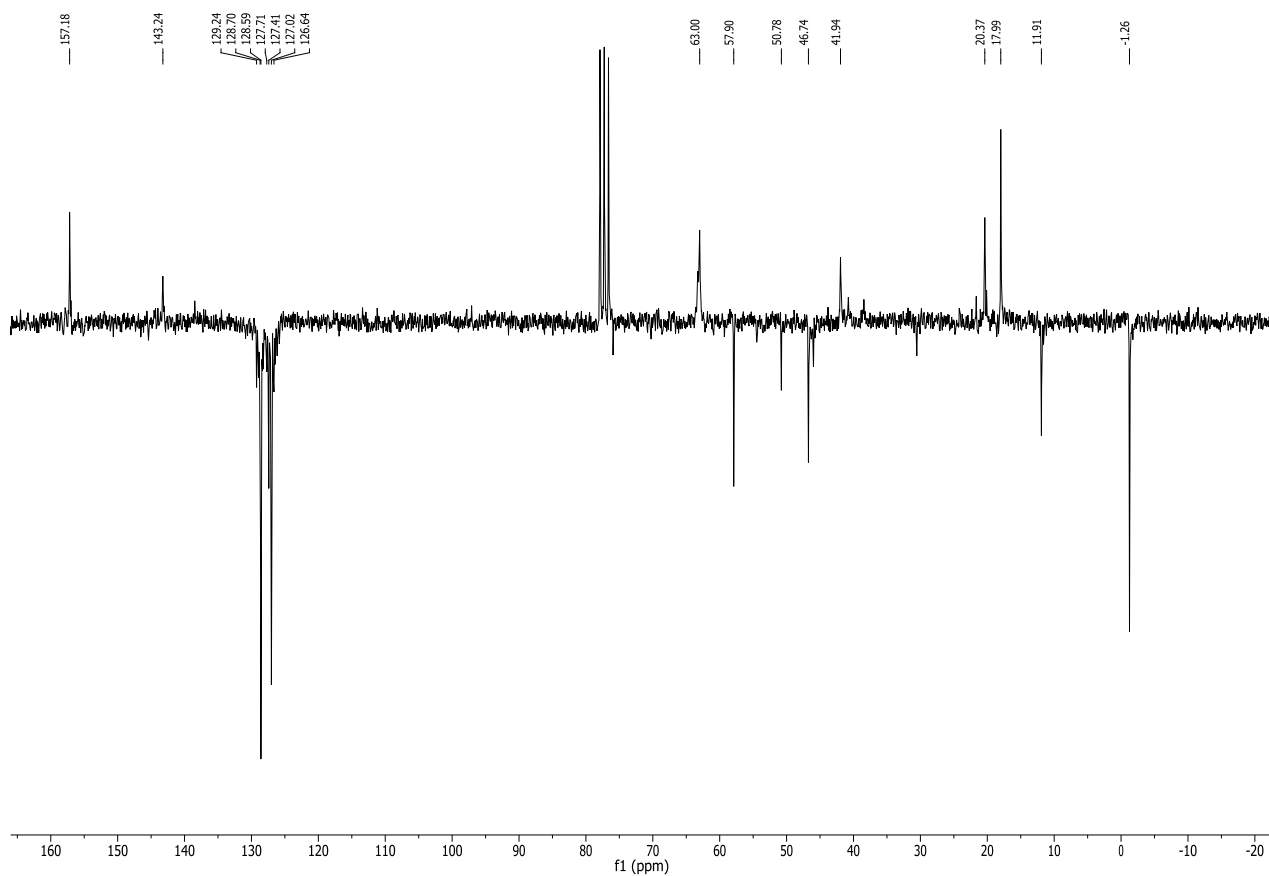
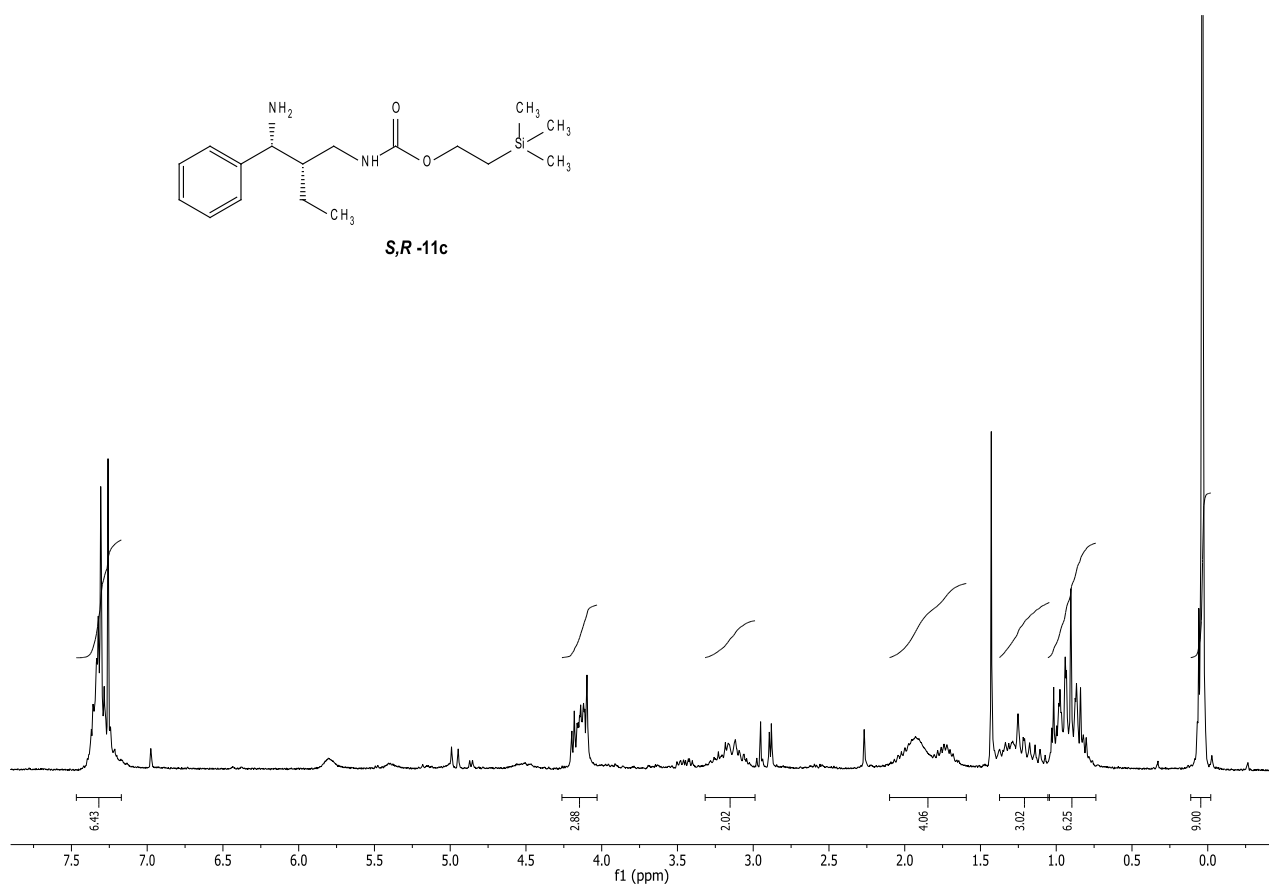
S,S-8c

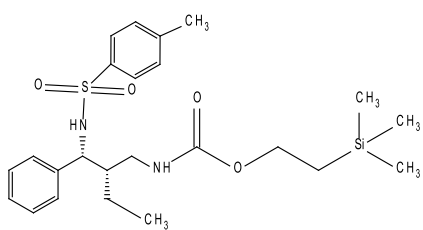






S,R-11c





***S,R*-12c**

