

## Supplementary Materials

### 3-(((1S,3S)-3-((R)-Hydroxy(4-(trifluoromethyl)phenyl)methyl)-4-oxocyclohexyl)methyl)pentane-2,4-dione: Design and Synthesis of New Stereopure Multi-Target Antidiabetic Agent

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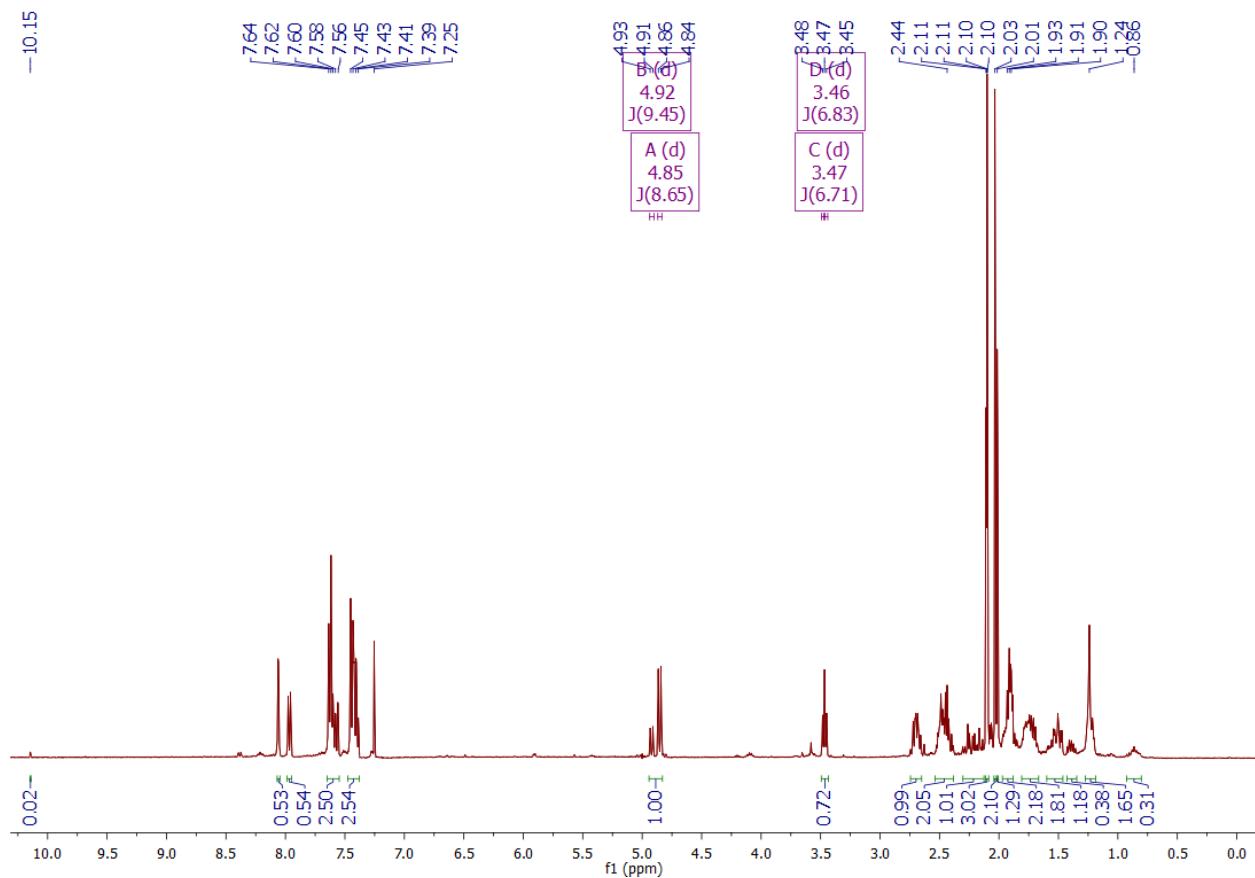
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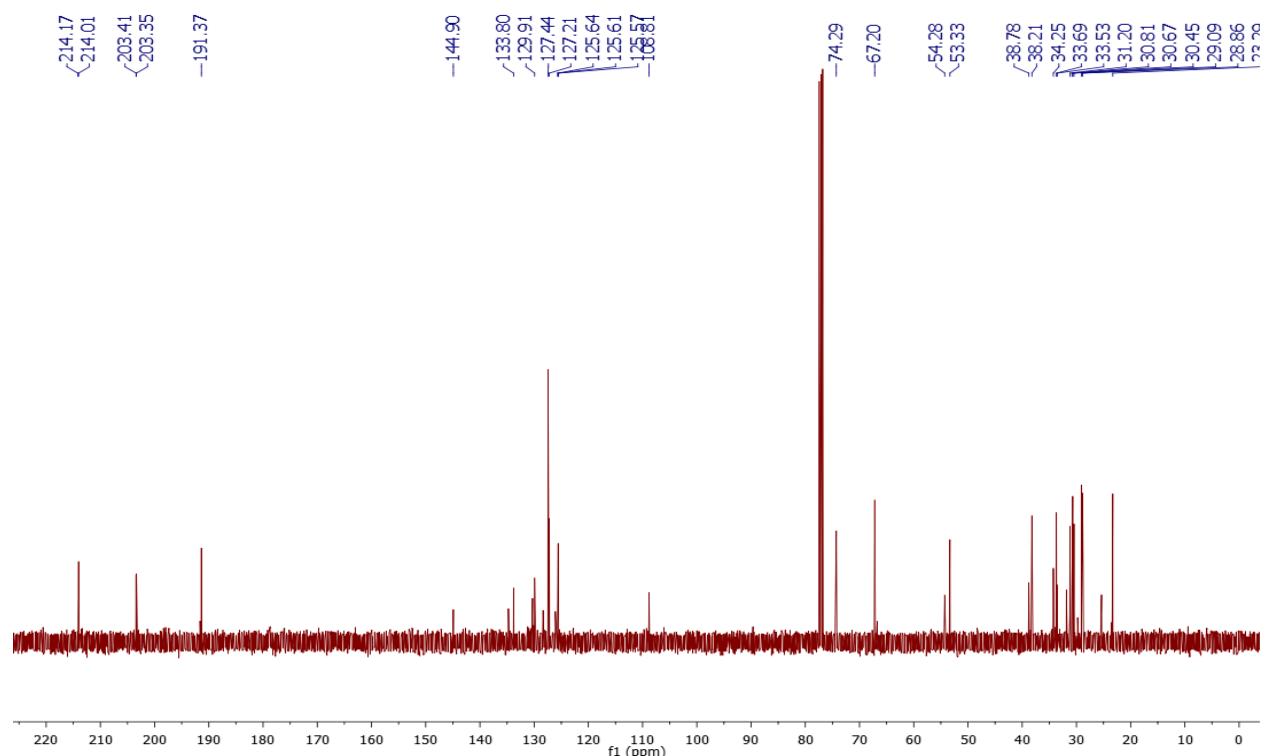
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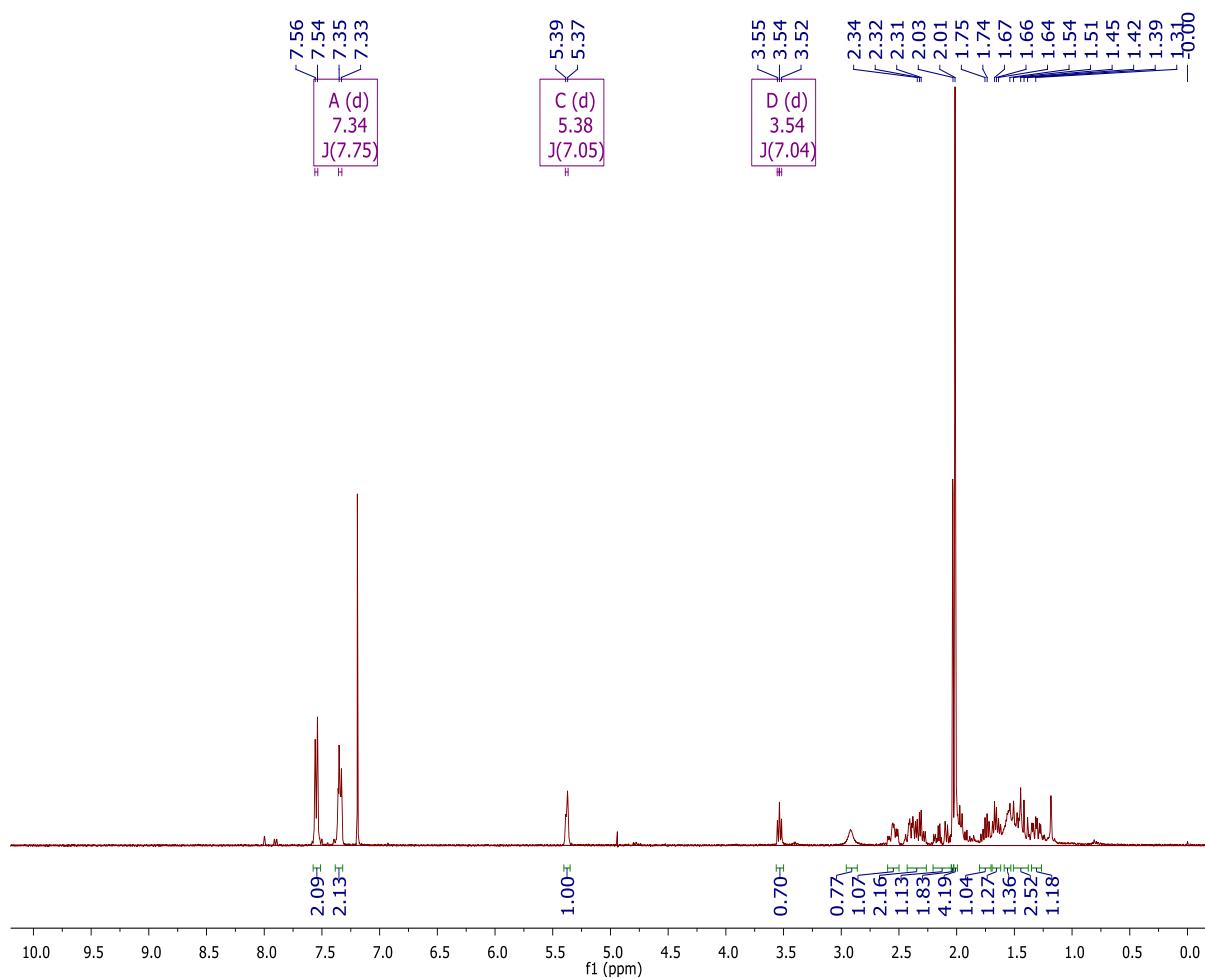
**Figure S1.**  $^1\text{H}$  NMR of the purified compound (mixture of diastereomers).



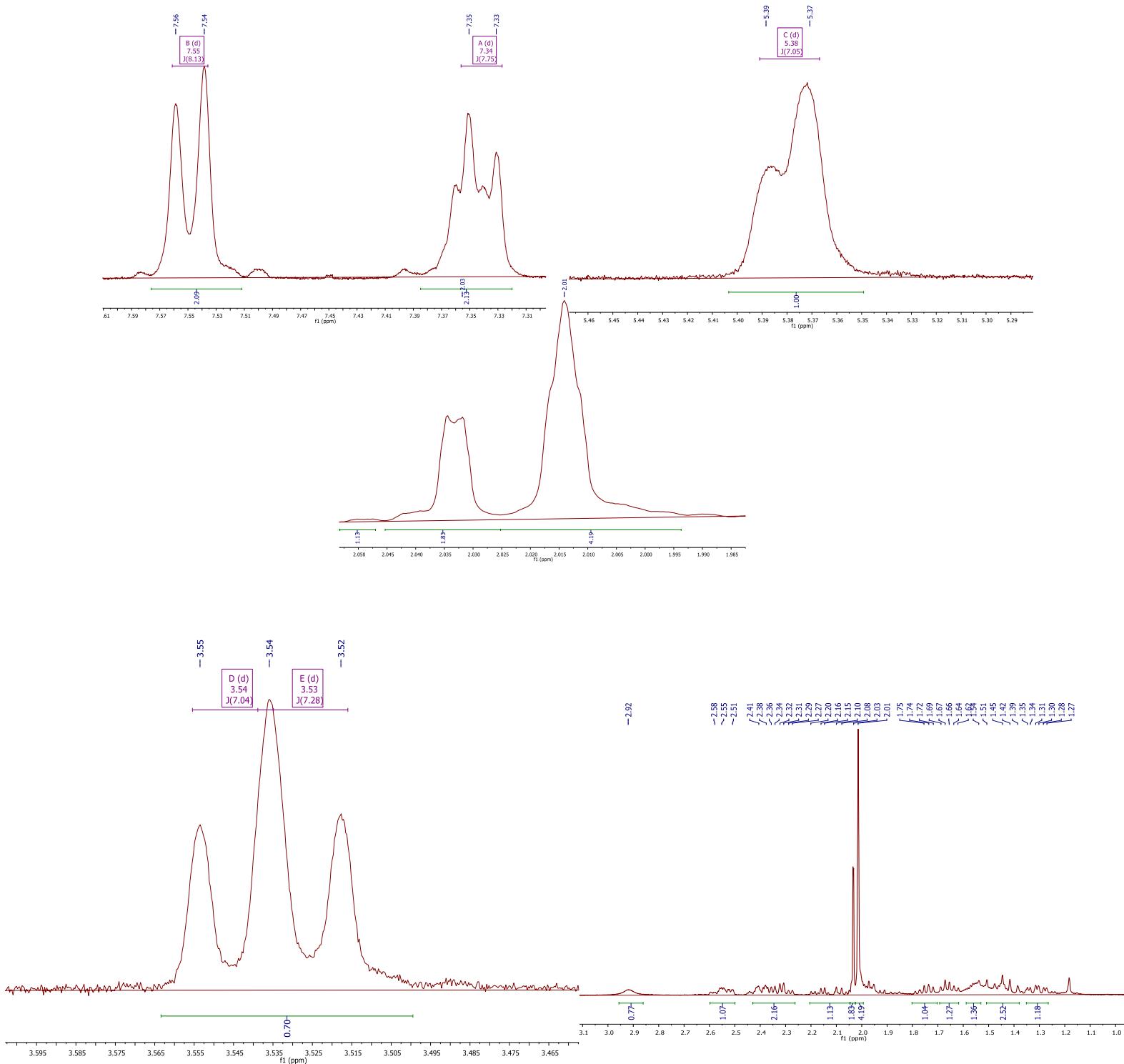
**Figure S2.**  $^{13}\text{C}$  NMR of the purified compound (mixture of diastereomers).



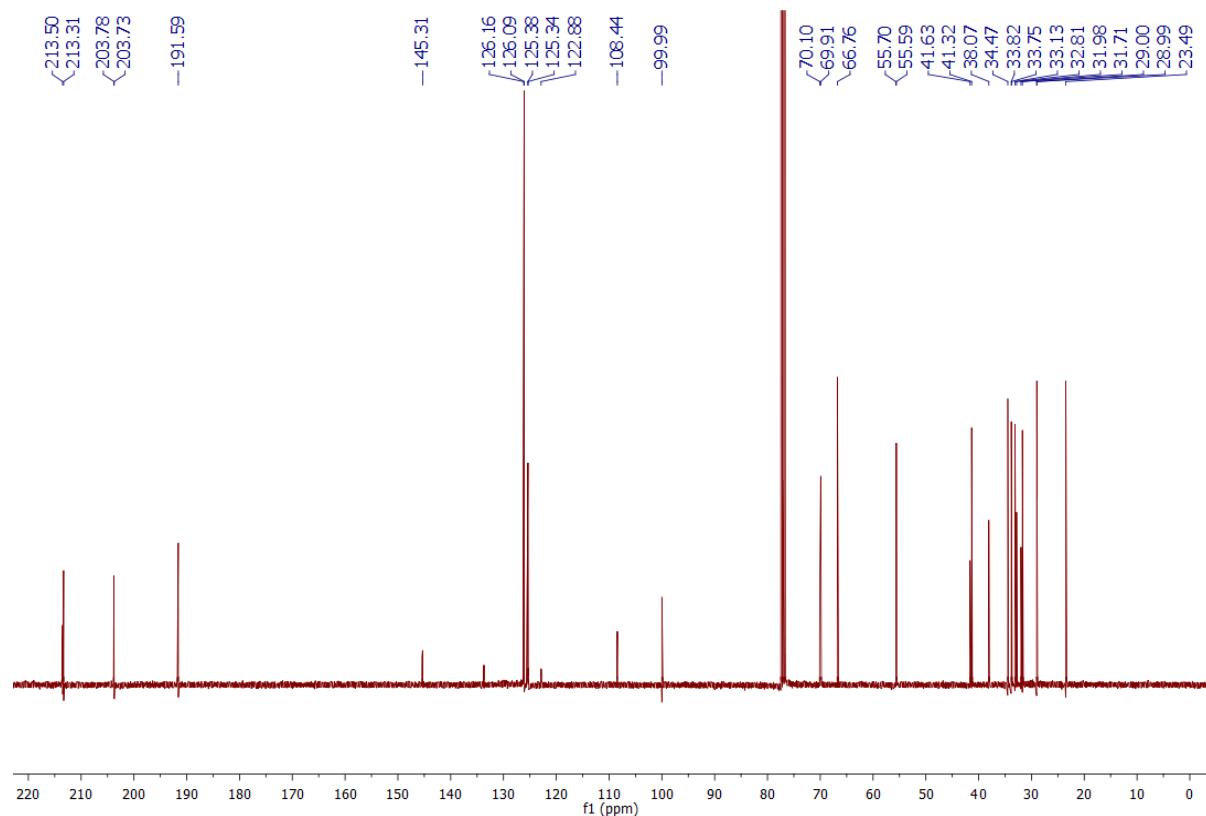
**Figure S3.**  $^1\text{H}$  NMR of the stereopure compound *S,S,R*-5.



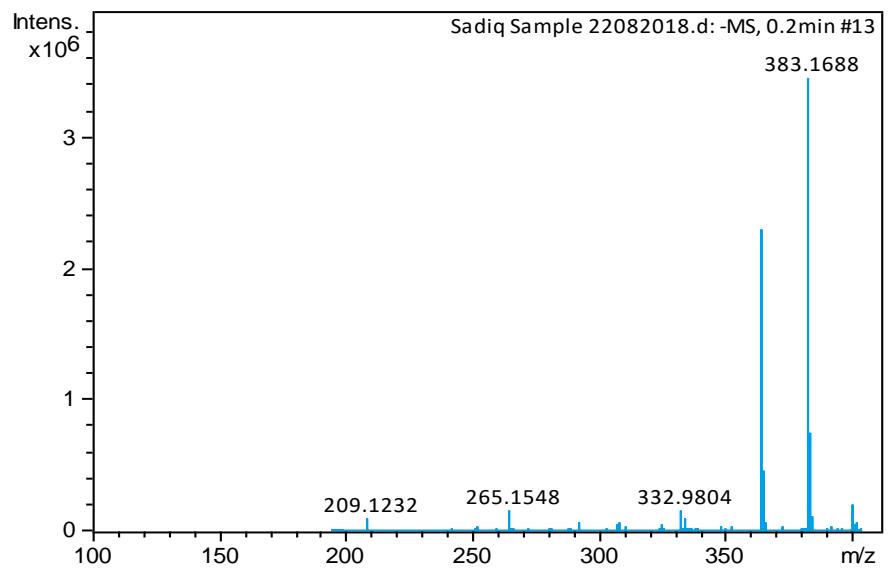
**Figure S4.** Expansions of the stereopure  $^1\text{H}$  NMR of compound  $S,S,R\text{-}5$ .



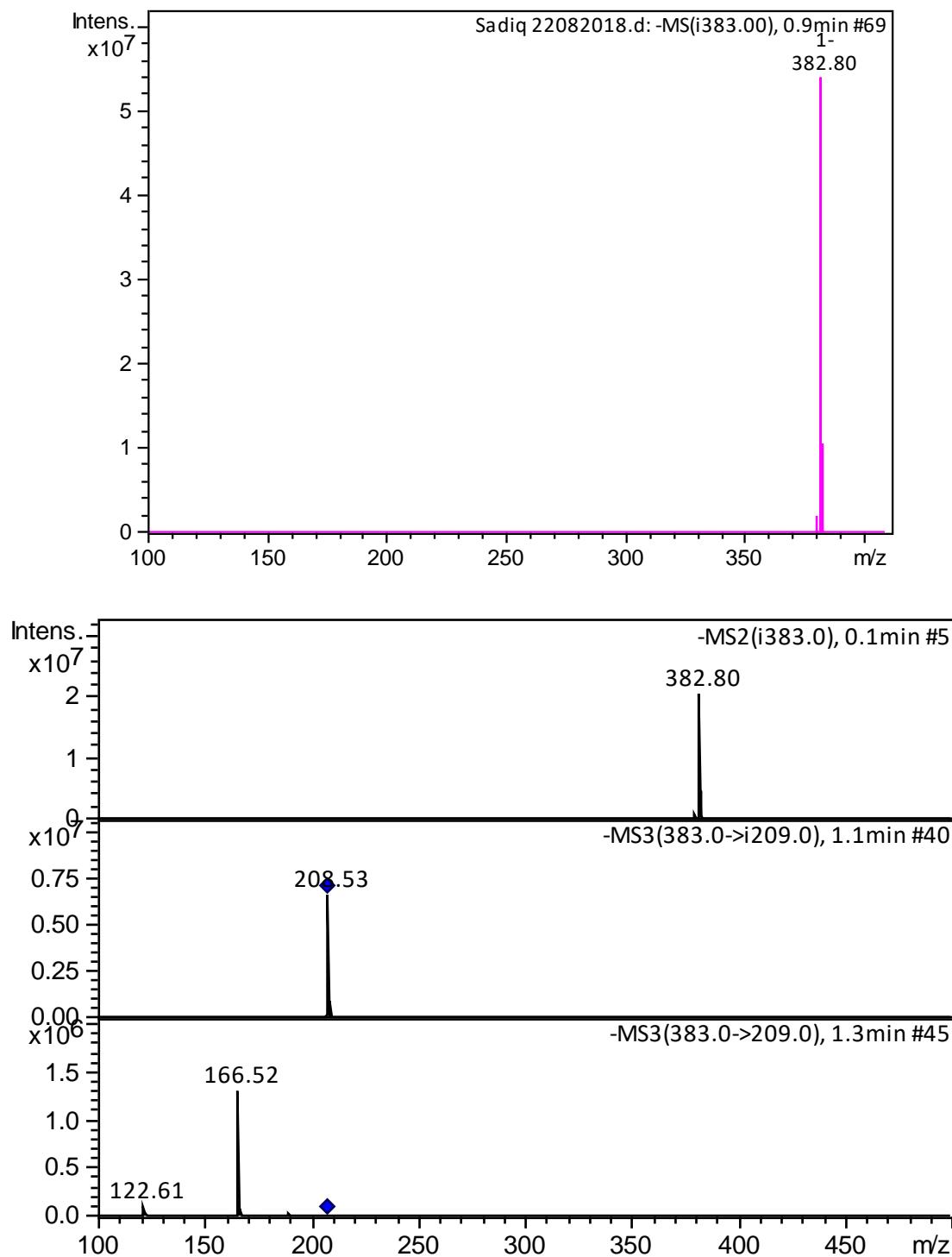
**Figure S5.**  $^{13}\text{C}$  NMR of the stereopure compound  $S,S,R\text{-}5$ .



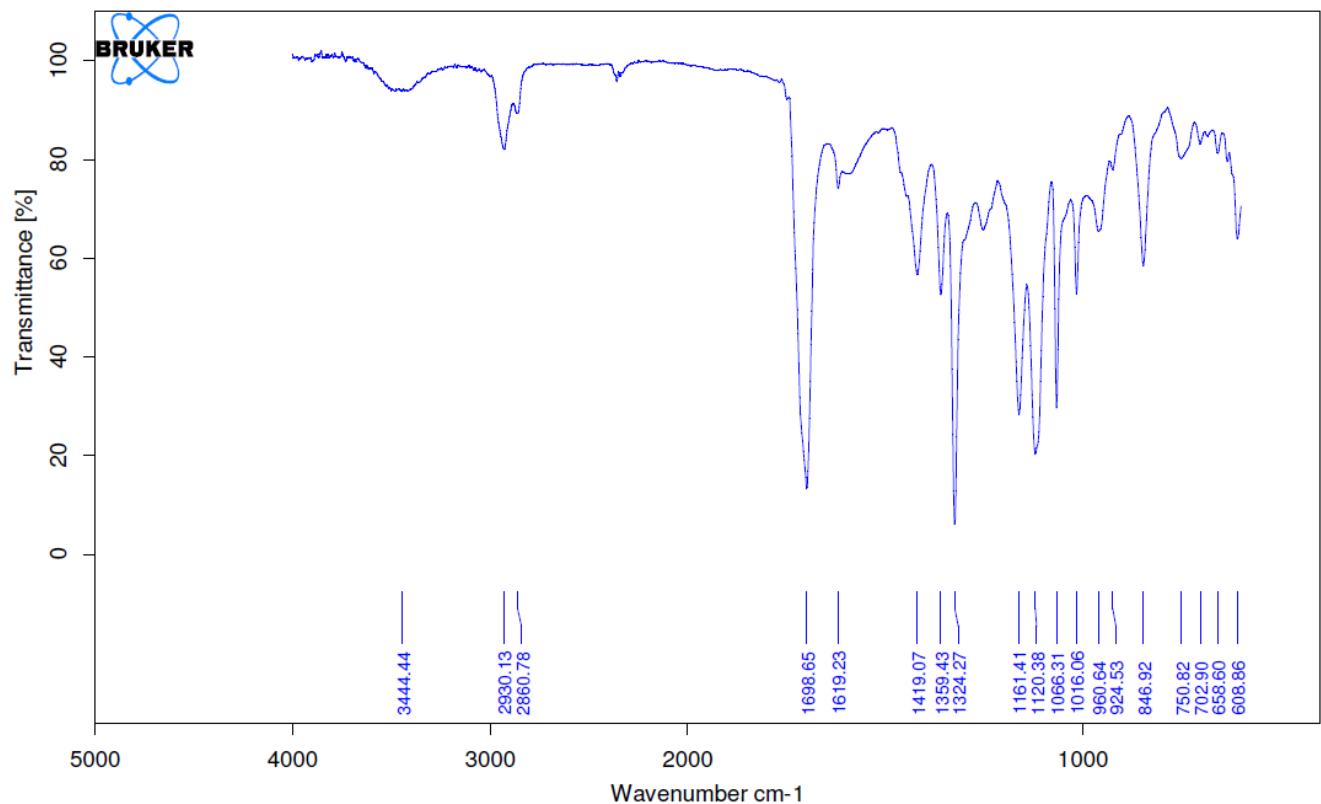
**Figure S6.** HRMS of the stereopure compound *S,S,R*-5.



**Figure S7.** MS data of the stereopure compound *S,S,R*-5.



**Figure S8.** FT-IR analysis of the compound *S,S,R*-5.

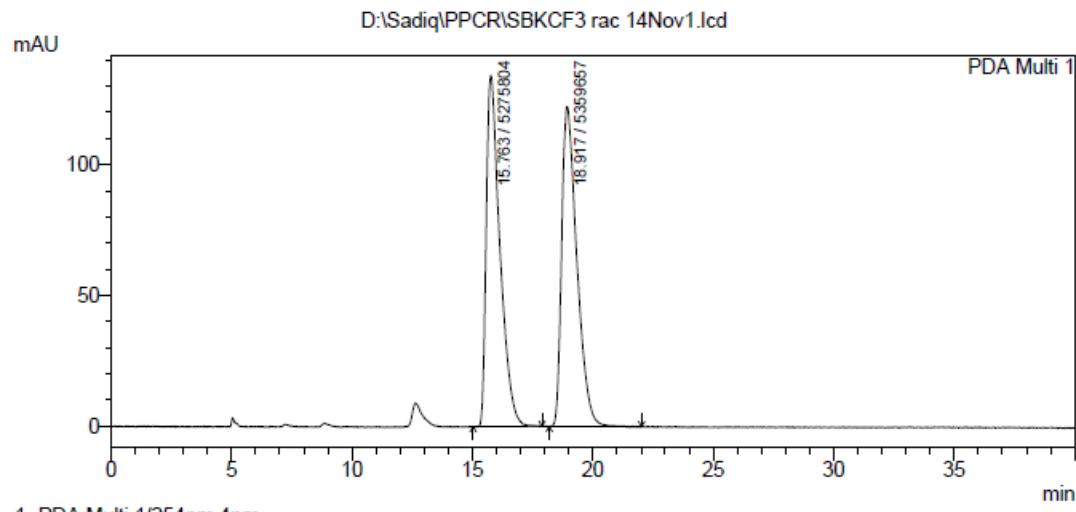


**Figure S9.** Chiral HPLC analysis of the racemic compound **Rac-5**.

===== Shimadzu LCsolution Analysis Report =====

Acquired by : Admin  
Sample Name : SBKCF3 rac 14Nov  
Sample ID : SBKCF3 rac 14Nov  
Vial # : 1  
Injection Volume : 10 uL  
Data File Name : SBKCF3 rac 14Nov1.lcd  
Method File Name : 10 % 0.6 mL, 60 min.lcm  
Batch File Name :  
Report File Name : Musterreport.lcr  
Data Acquired : 14.11.2018 08:38:53  
Data Processed : 14.11.2018 09:18:58  
Diese Probe heißt: SBKCF3 rac 14Nov

<Chromatogram>



<Results>

PDA Ch1 254nm 4nm

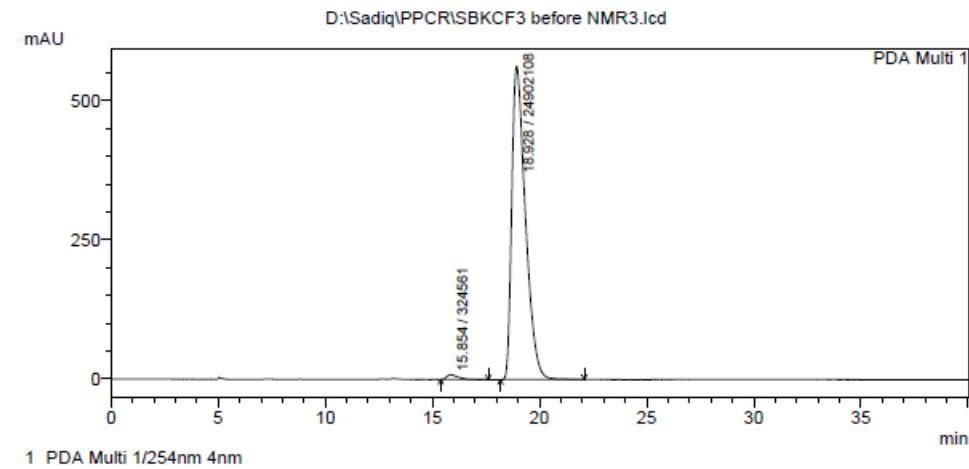
Peak #	Ret. Time	Area	Height	Area %	Height %	Width at 10% Height	Mark
1	15.763	5275804	134224	49.606	52.342	1.185	
2	18.917	5359657	122214	50.394	47.658	1.285	
Total		10635461	256438	100.000	100.000		

**Figure S10.** Chiral HPLC analysis of the stereopure compound *S,S,R*-5.

**==== Shimadzu LCsolution Analysis Report ====**

Acquired by : Admin  
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Sample ID : SBKCF3 before NMR  
Vial # : 1  
Injection Volume : 10  $\mu$ L  
Data File Name : SBKCF3 before NMR3.lcd  
Method File Name : 10 % 0.6 mL, 60 min.lcm  
Batch File Name :  
Report File Name : Musterreport.lcr  
Data Acquired : 14.11.2018 07:54:56  
Data Processed : 14.11.2018 08:35:01  
Diese Probe heißt: SBKCF3 before NMR

**<Chromatogram>**



**<Results>**

PDA Ch1 254nm 4nm

Peak #	Ret. Time	Area	Height	Area %	Height %	Width at 10% Height	Mark
1	15.854	324561	8754	1.287	1.531	1.131	
2	18.928	24902108	563170	98.713	98.469	1.299	
Total		25226669	571924	100.000	100.000		