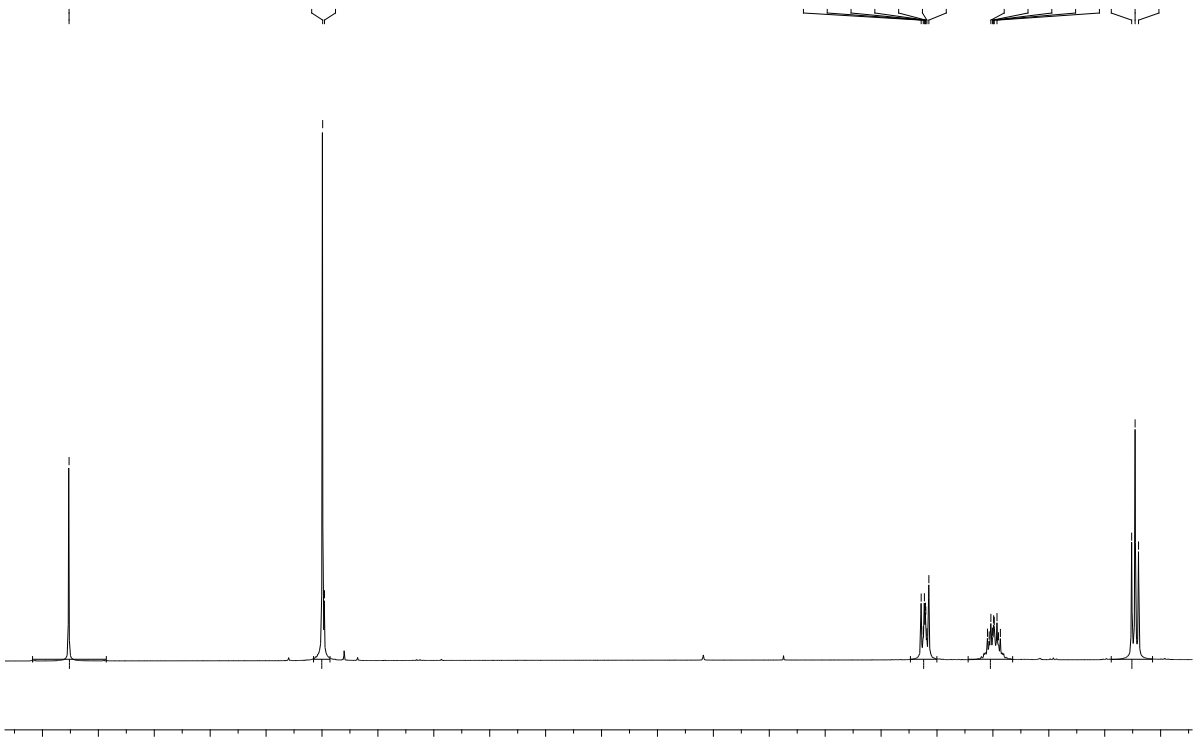
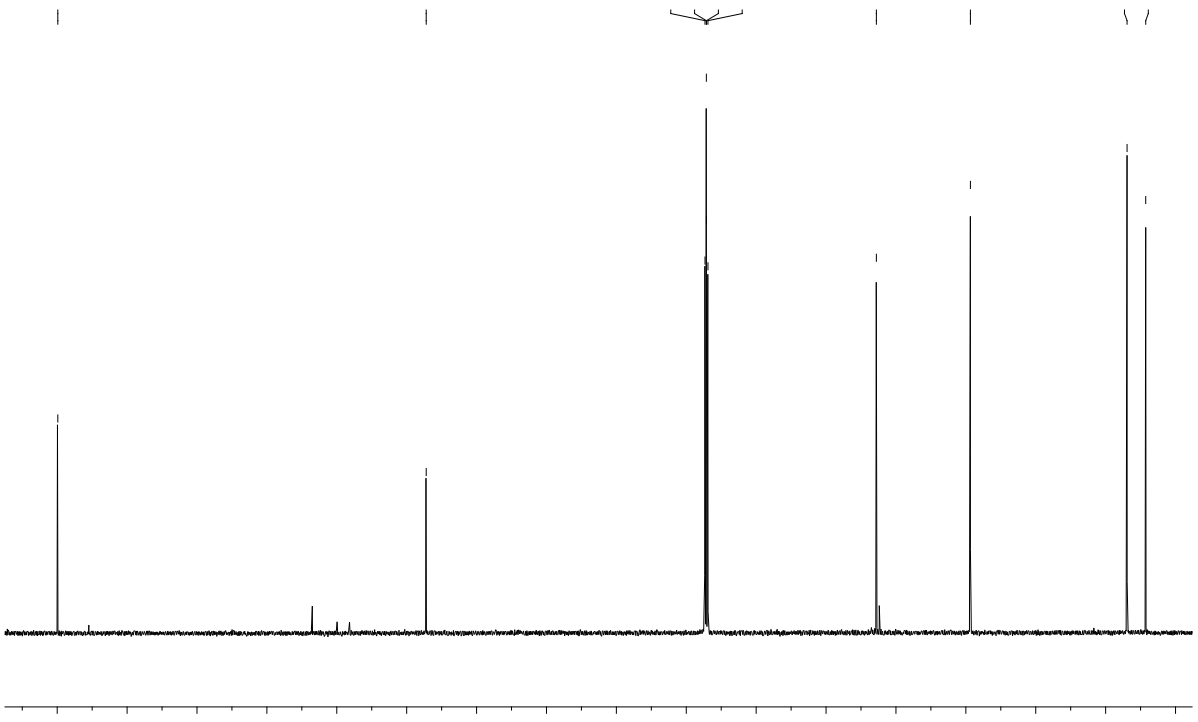
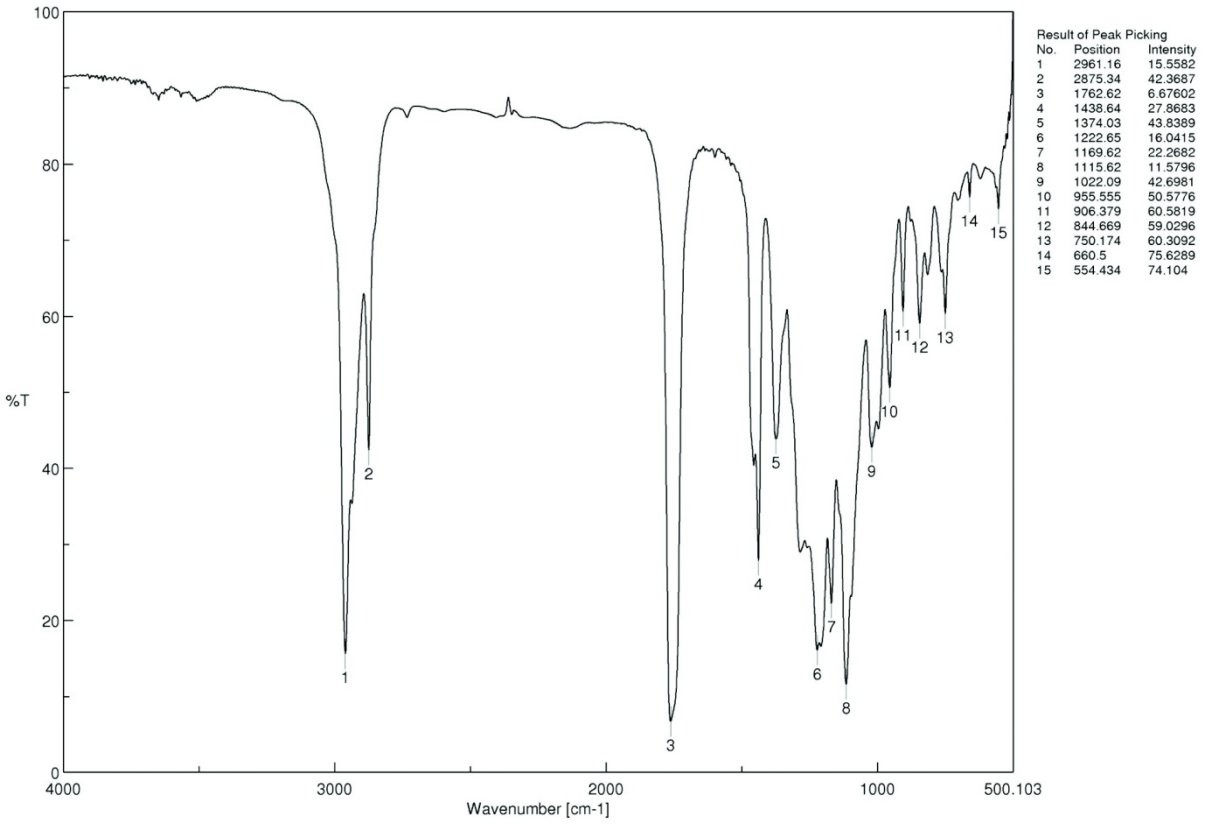
^{1}H NMR of (4*R*,5*R*)-Dimethyl-2,2-dipropyl-1,3-dioxolane-4,5-dicarboxylate (**(*R*,*R*)-1b**) ($CDCl_3$)



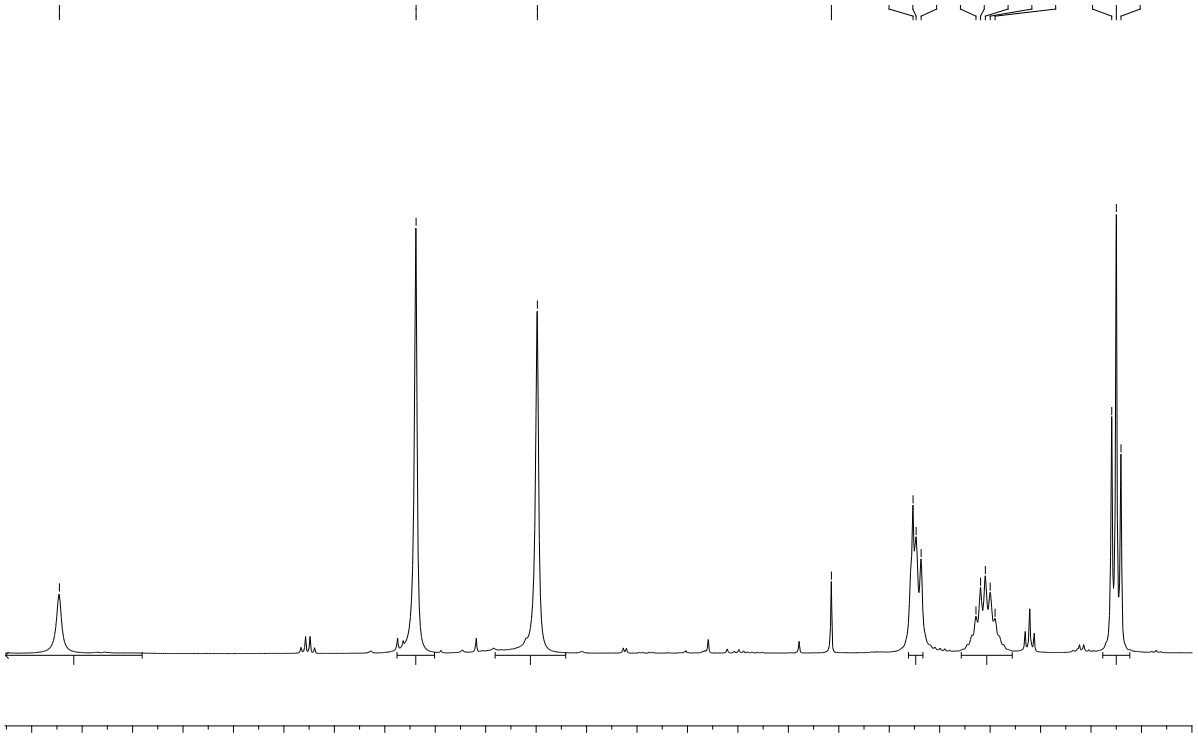
^{13}C NMR of **(*R*,*R*)-1b** ($CDCl_3$)



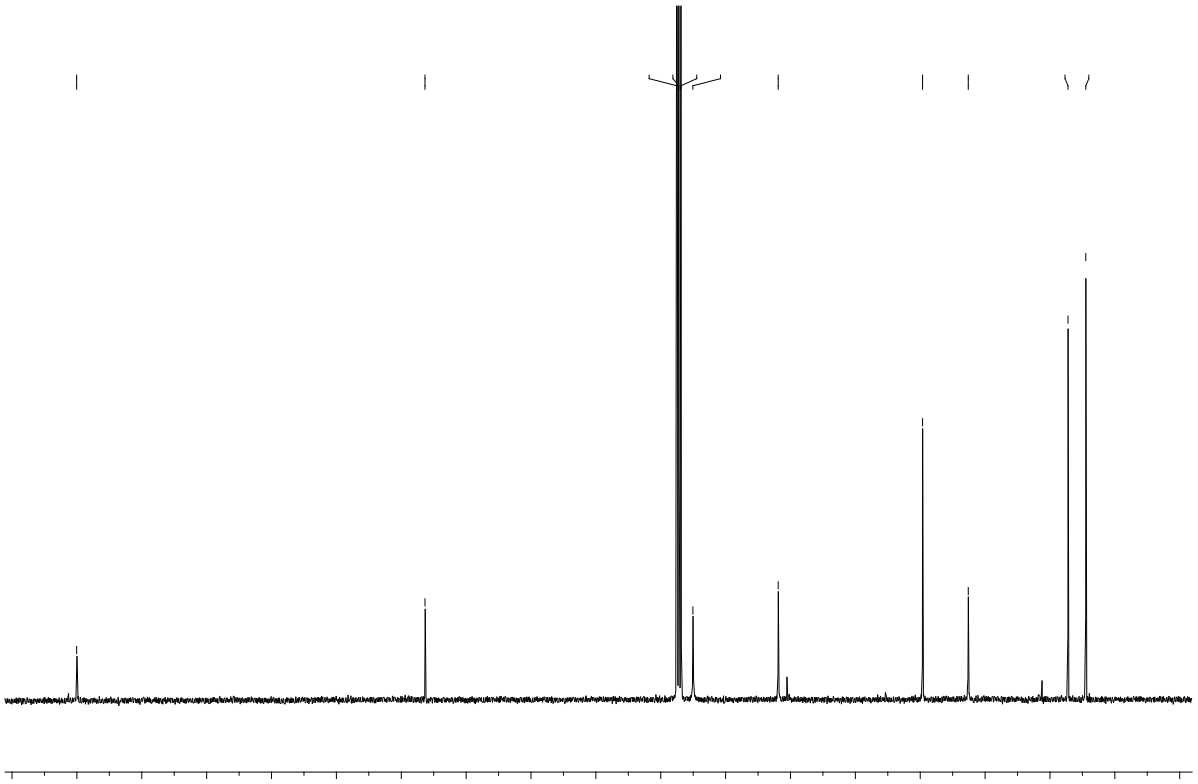
IR spectrum of **(*R*,*R*)-1b**



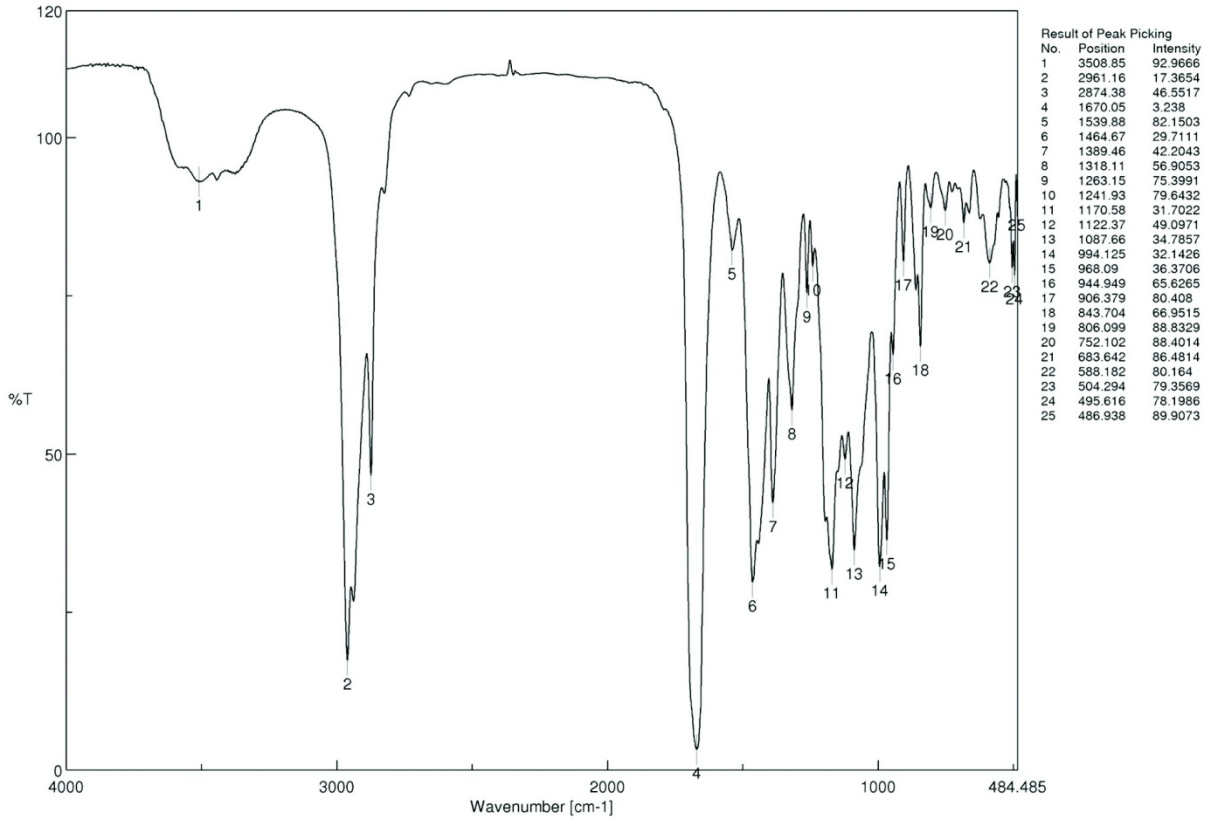
^{1}H NMR of (*4*R,*5*R)-N,N-dimethoxy-N,N-dimethyl-2,2-dipropyl-1,3-dioxolane-4,5-dicarboxamide (**(*R*,*R*)-2b)**) ($CDCl_3$)



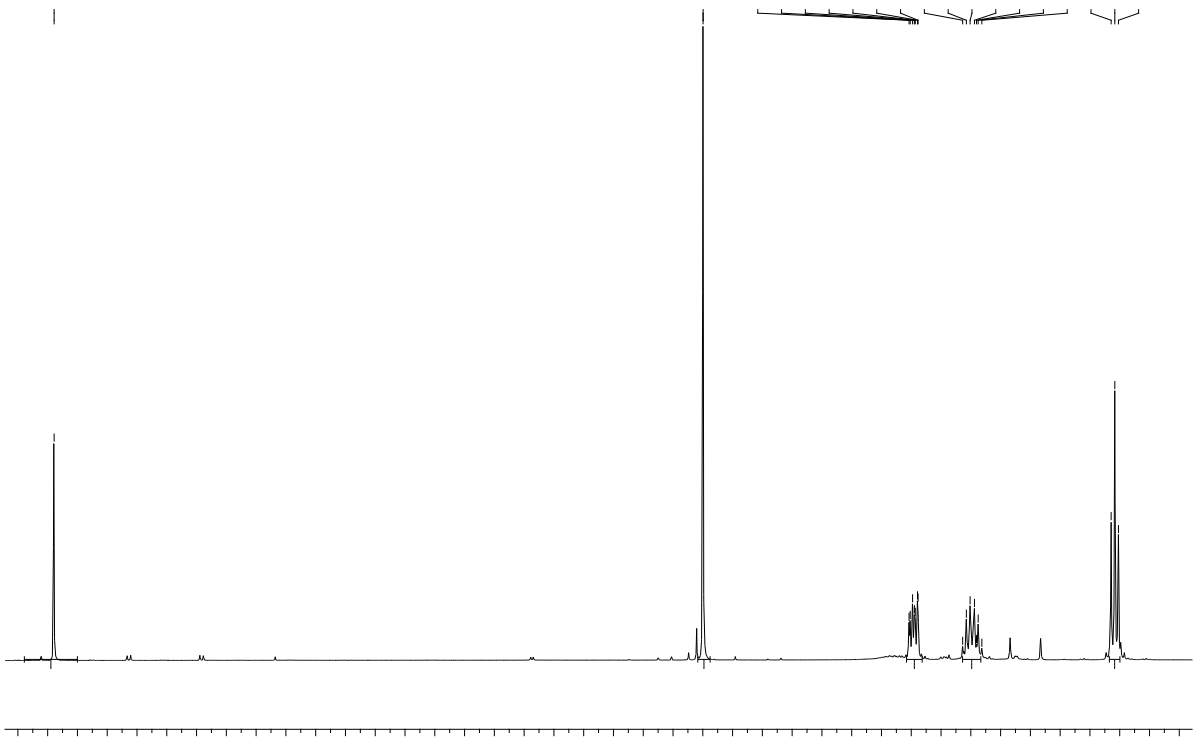
^{13}C NMR of **(*R*,*R*)-2b** ($CDCl_3$)



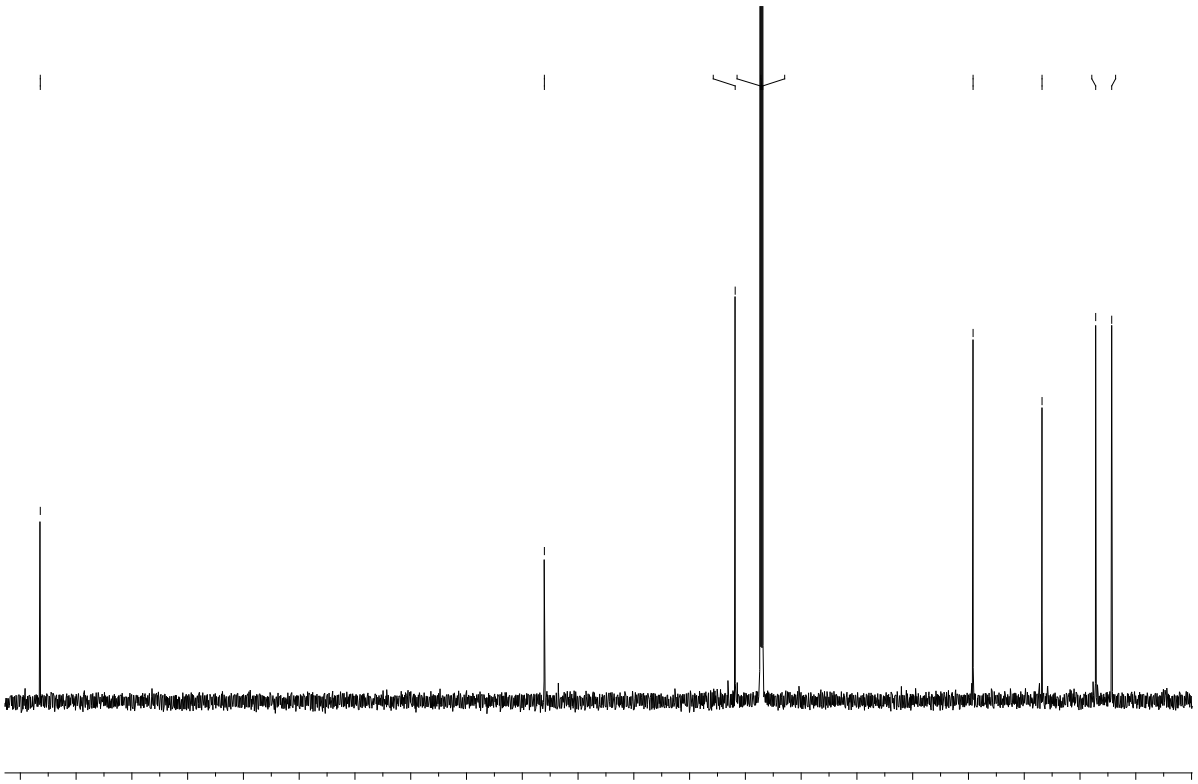
IR spectrum of **(*R*,*R*)-2b**



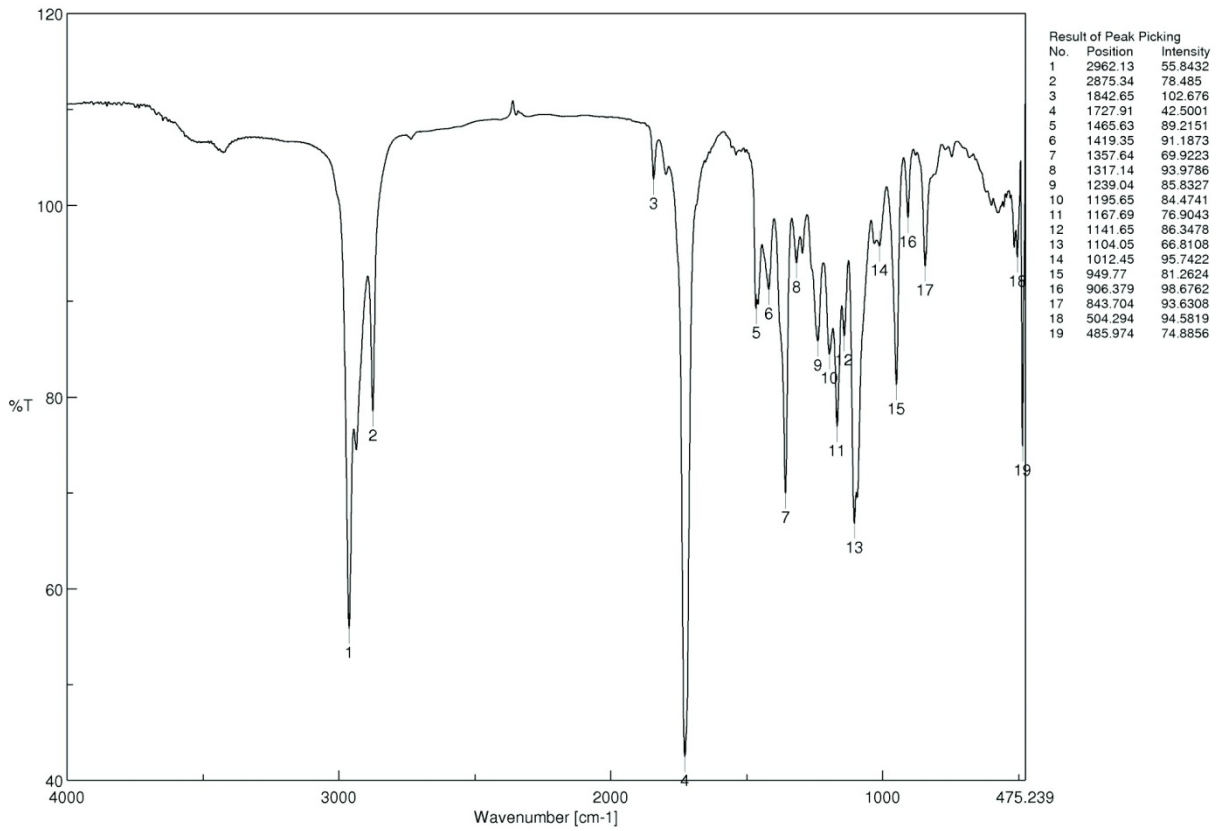
^{1}H NMR of 1,1'-((4*R*,5*R*)-2,2-dipropyl-1,3-dioxolane-4,5-diyl)diethanone (**(*R*,*R*)-3b**) ($CDCl_3$)



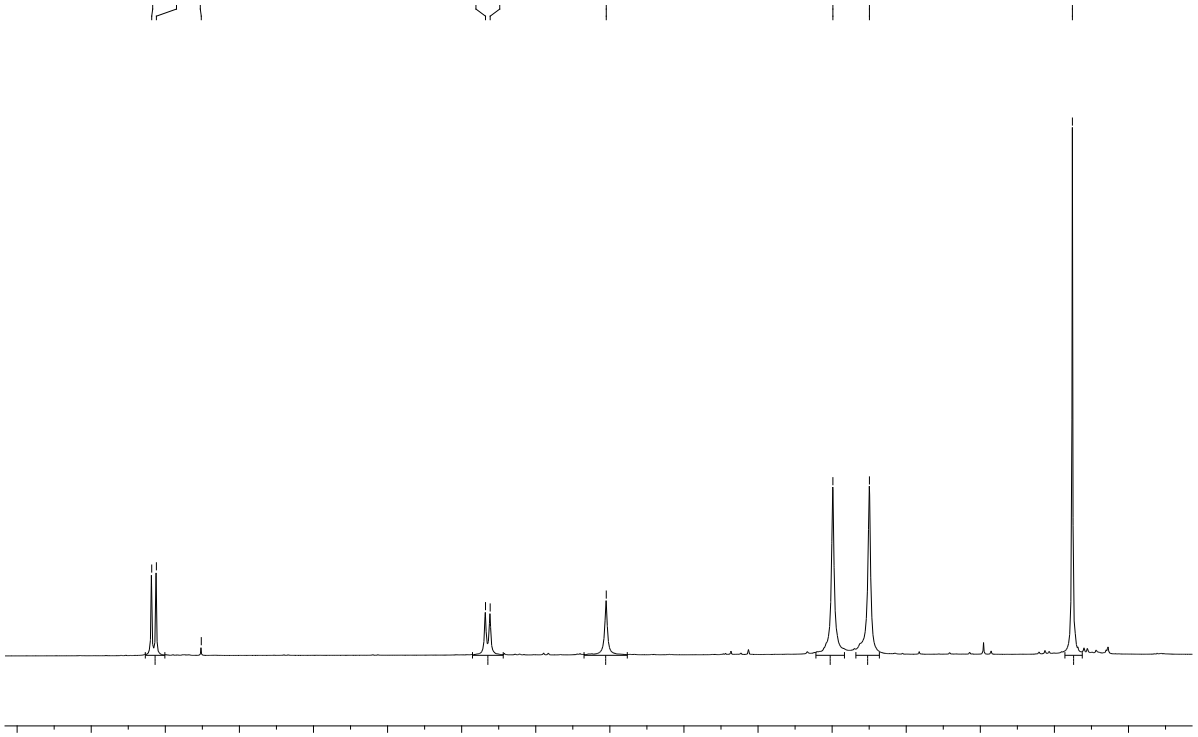
^{13}C NMR of **(*R*,*R*)-3b** ($CDCl_3$)



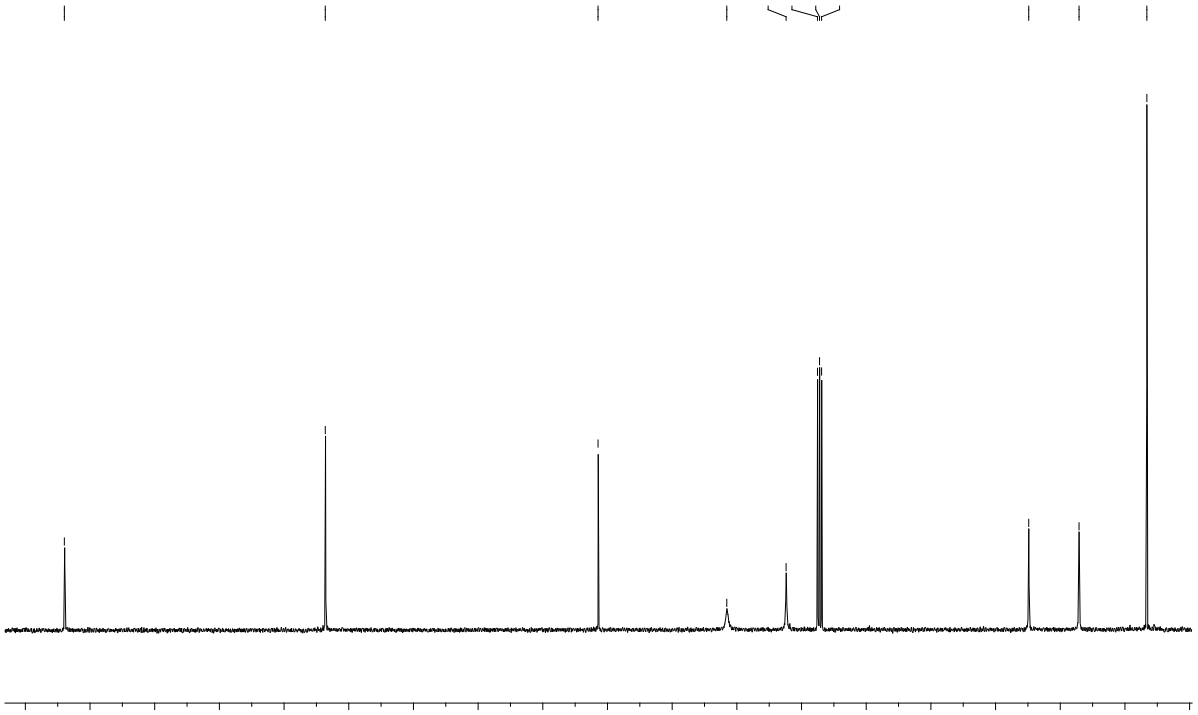
IR spectrum of **(*R,R*)-3b**



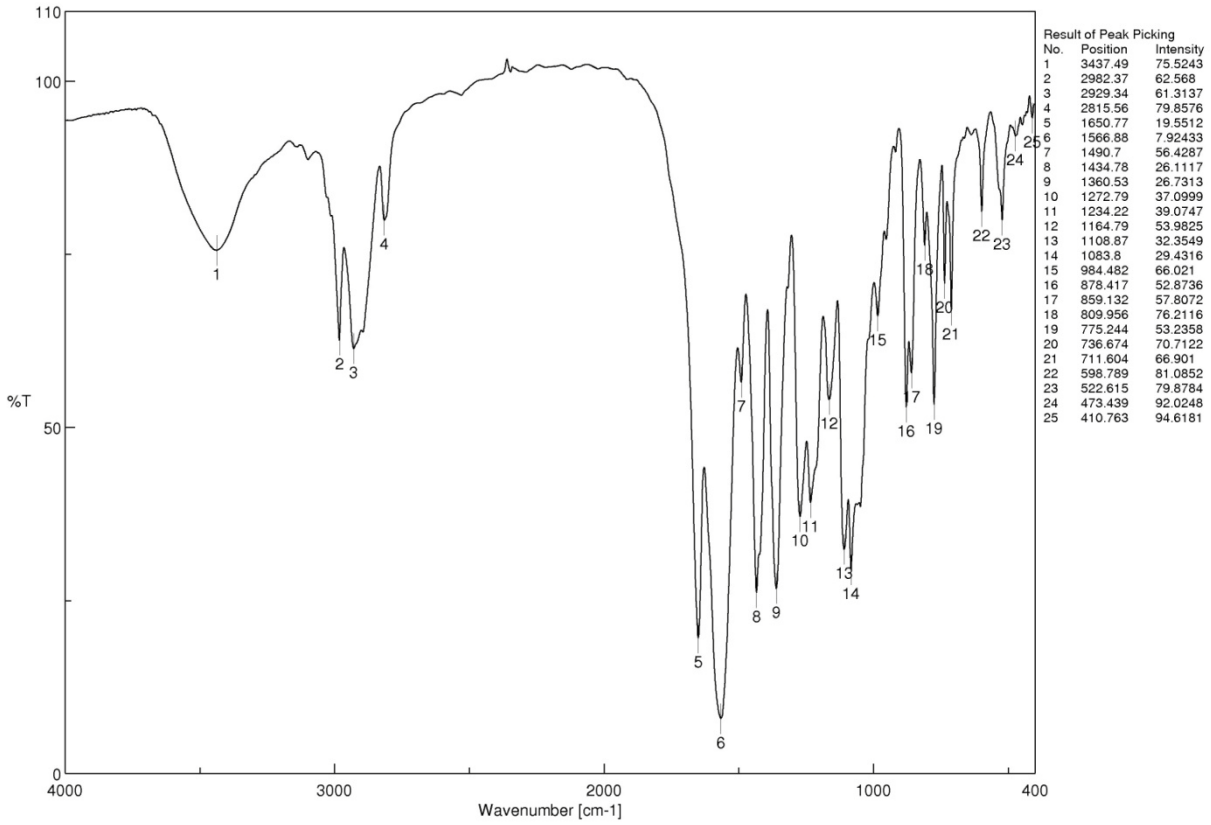
^{1}H NMR of 1,1'-((4R,5R)-2,2-dimethyl-1,3-dioxolane-4,5-diyl)bis(3-(dimethylamino)prop-2-en-1-one) (**(*R,R*)-4a**) ($CDCl_3$)



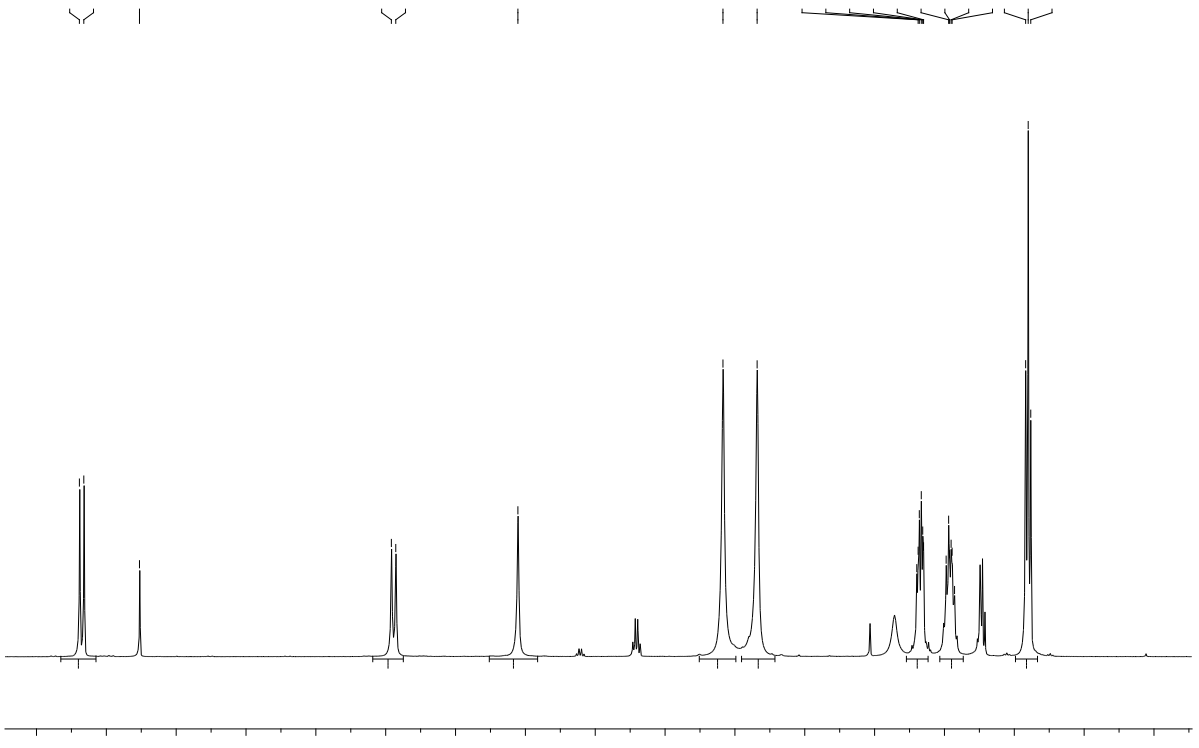
^{13}C NMR of **(*R*,*R*)-4a** ($CDCl_3$)



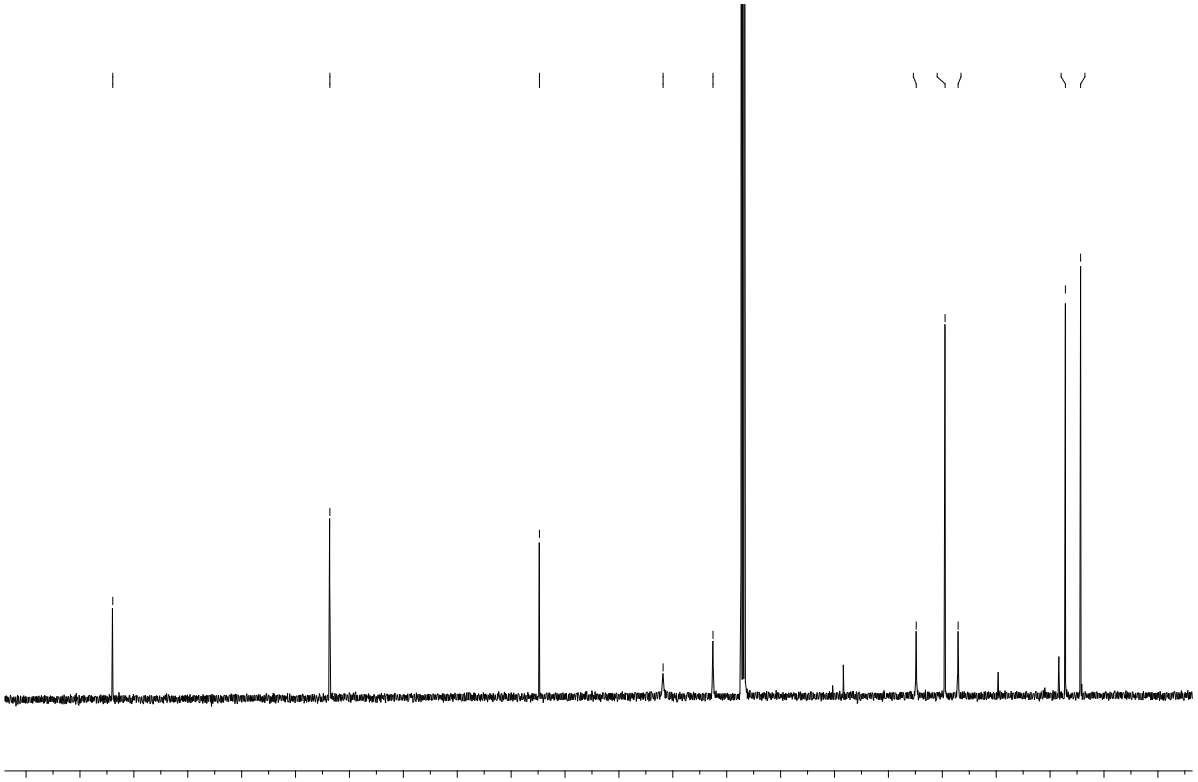
IR spectrum of **(*R*,*R*)-4a**



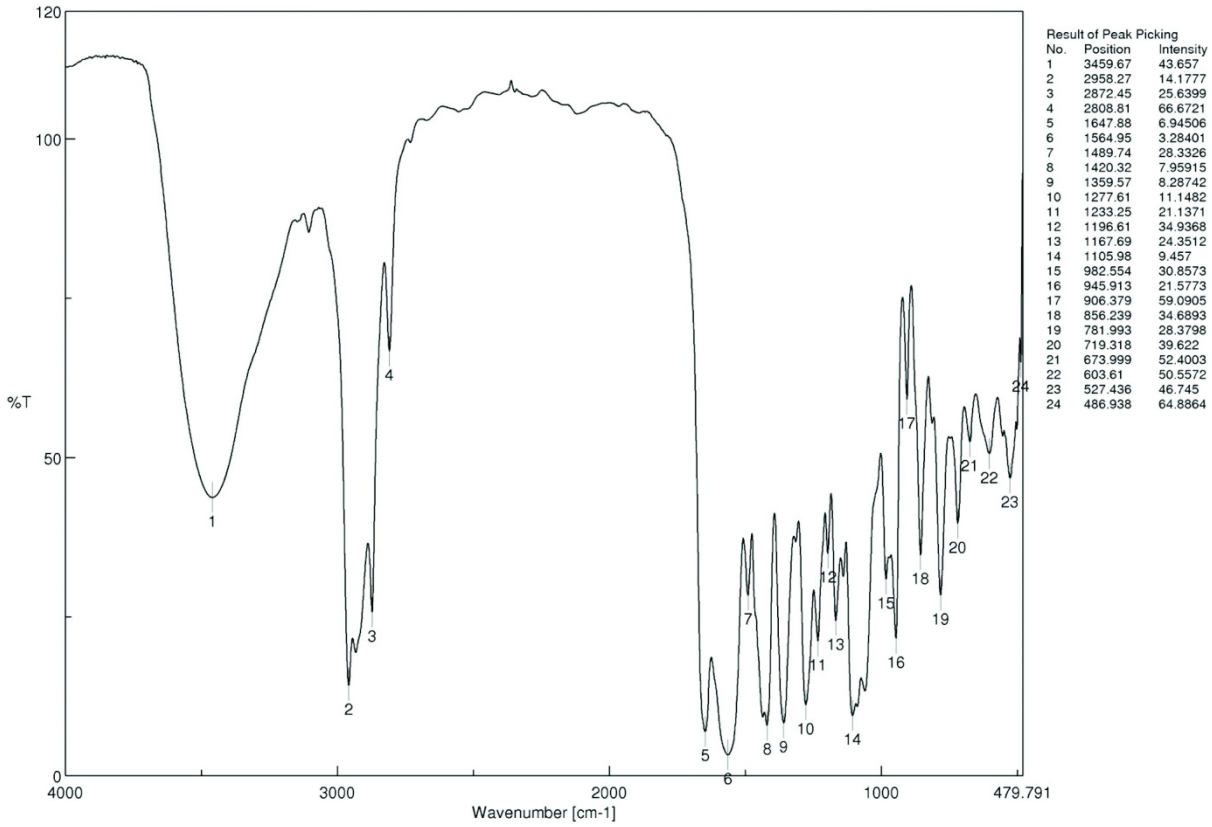
^{1}H NMR of 1,1'-((4R,5R)-2,2-dipropyl-1,3-dioxolane-4,5-diyl)bis(3-(dimethylamino)prop-2-en-1-one) (**(*R*,*R*)-4b**) ($CDCl_3$)



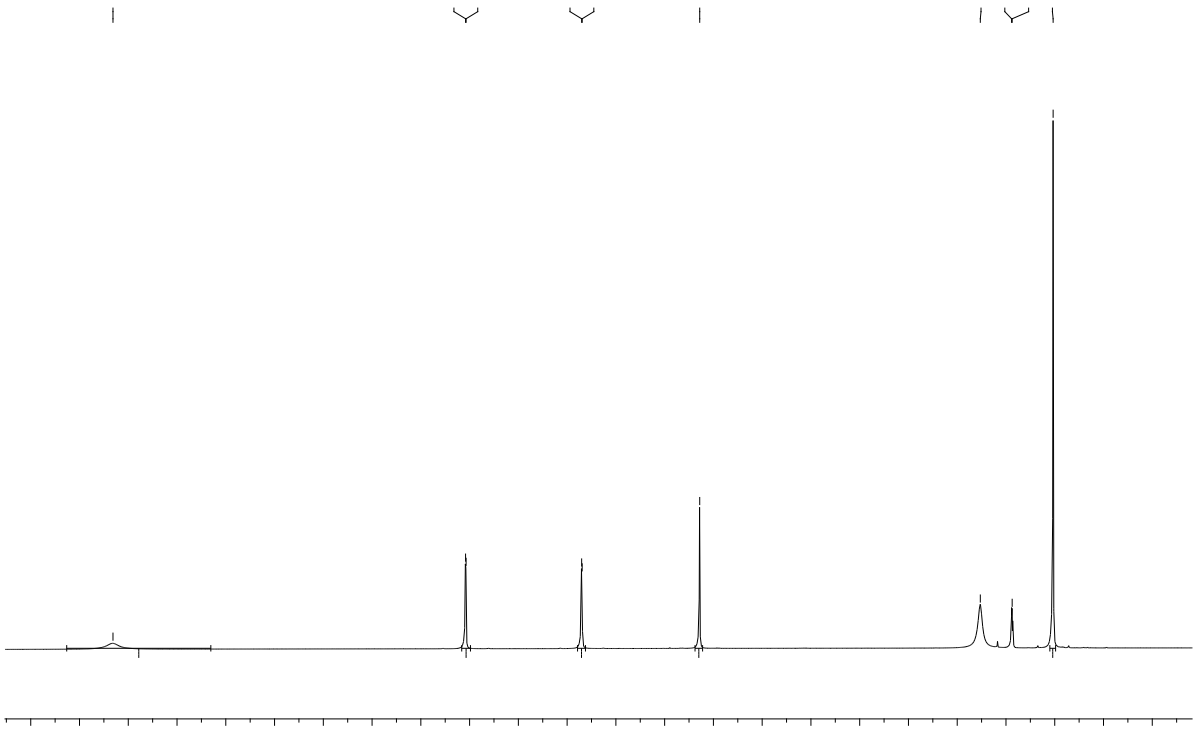
^{13}C NMR of **(*R*,*R*)-4a** ($CDCl_3$)



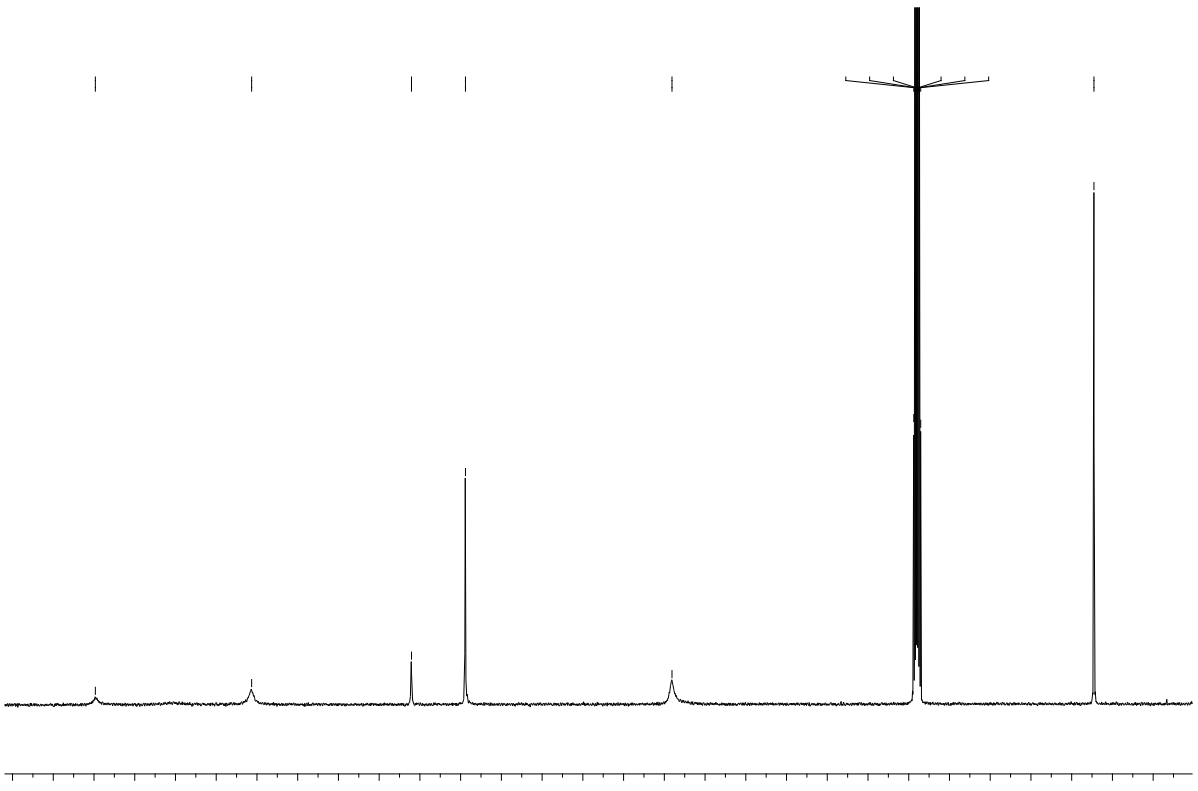
IR spectrum of **(*R*,*R*)-4a**



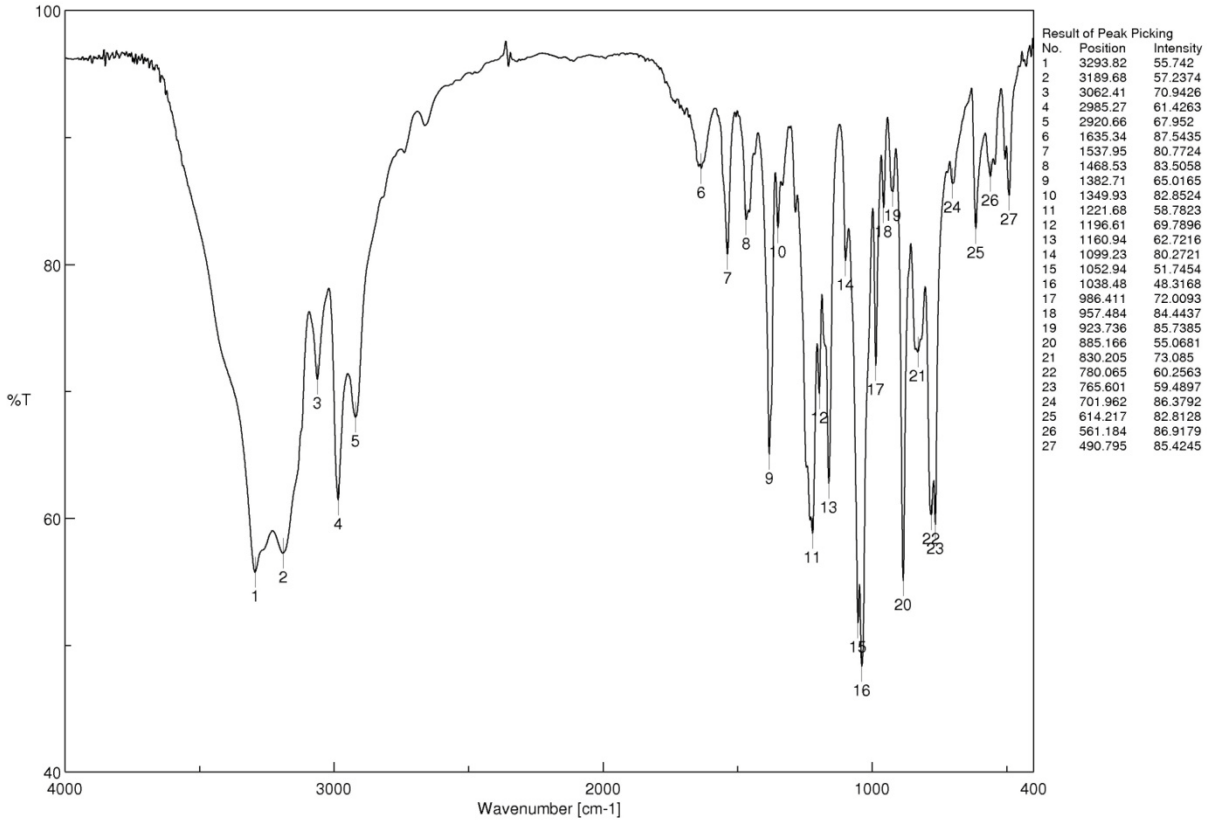
^{1}H NMR of 3,3'-((4S,5S)-2,2-dimethyl-1,3-dioxolane-4,5-diyl)bispyrazole (**(*S*,*S*)-5a**) (CD_3CN)



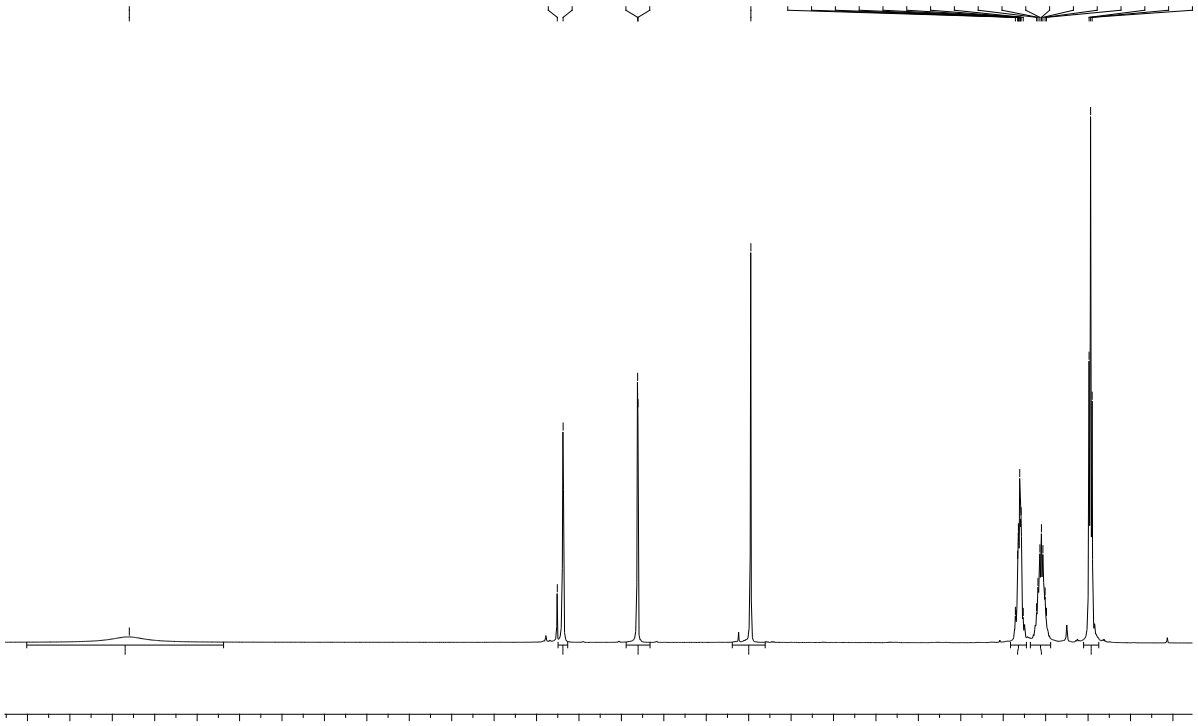
^{13}C NMR of **(*S*,*S*)-5a** (CD_3OD)



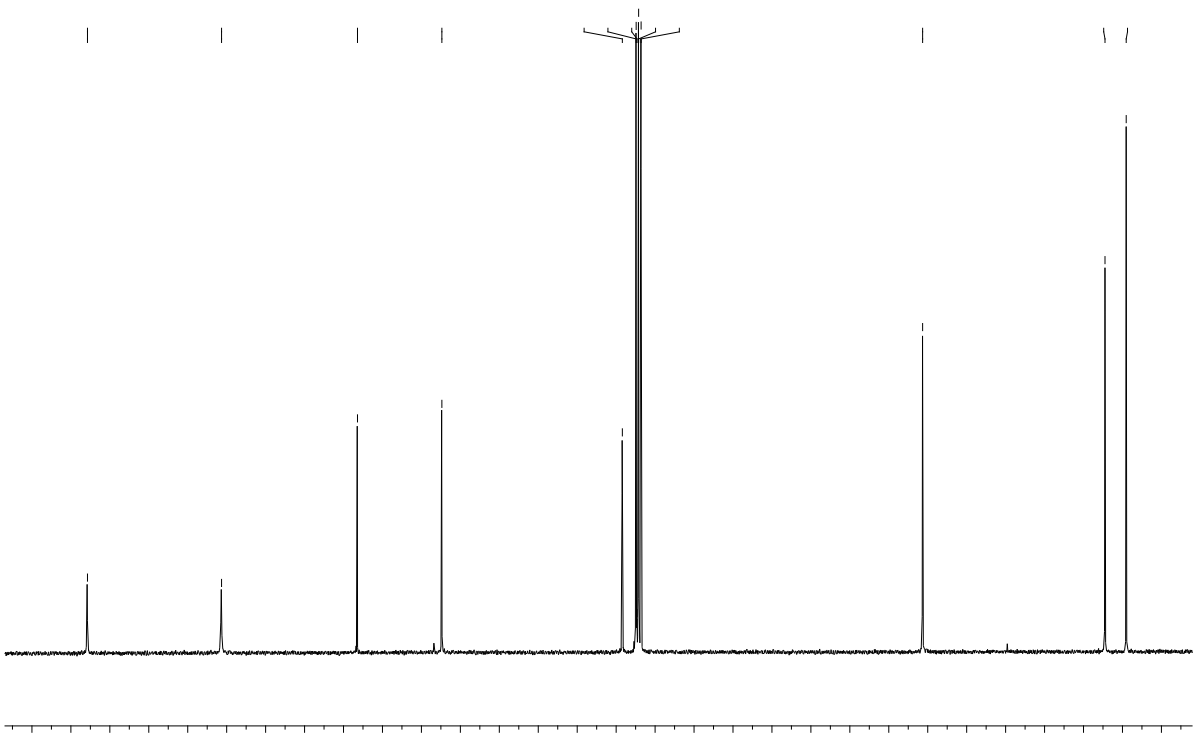
IR spectrum of **(*S*,*S*)-5a**



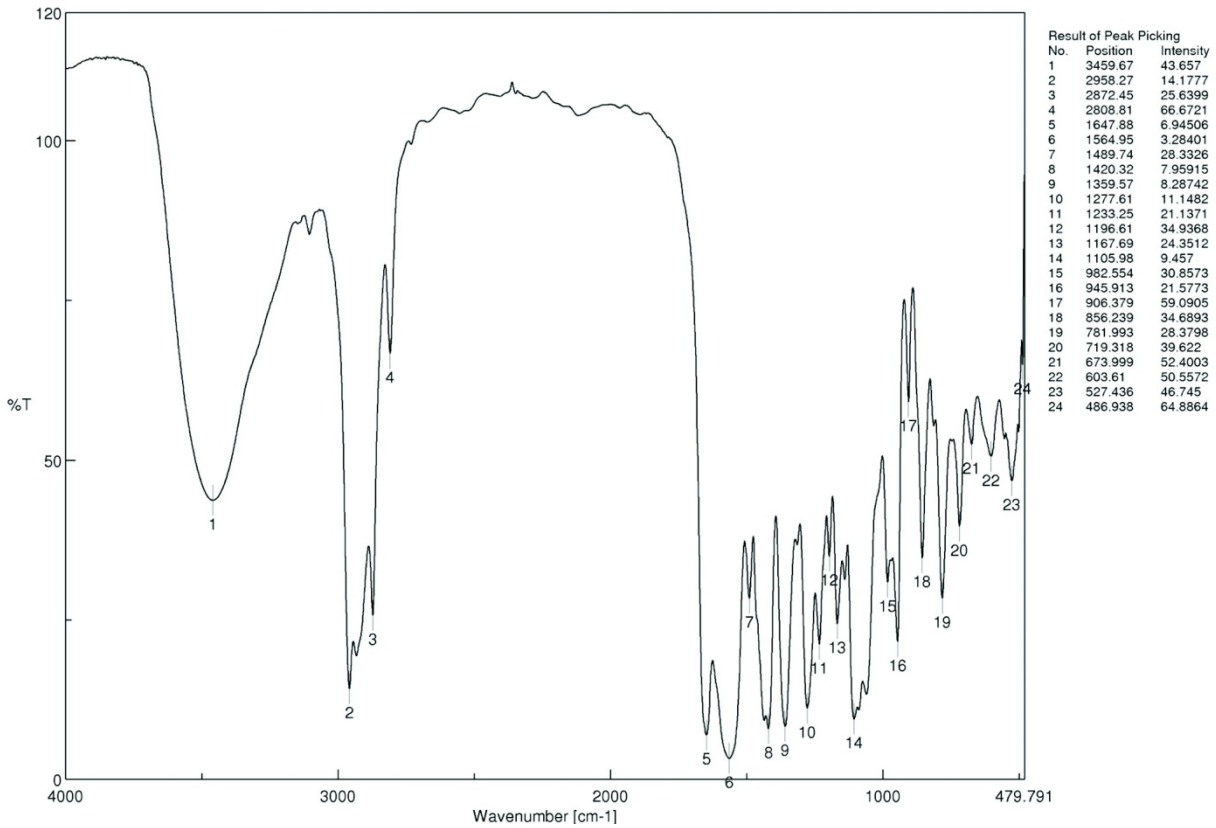
^{1}H NMR of 3,3'-((4S,5S)-2,2-dipropyl-1,3-dioxolane-4,5-diyl)bispyrazole (**(*S*,*S*)-5b**) ($CDCl_3$)



^{13}C NMR of **(*S*,*S*)-5b** ($CDCl_3$)



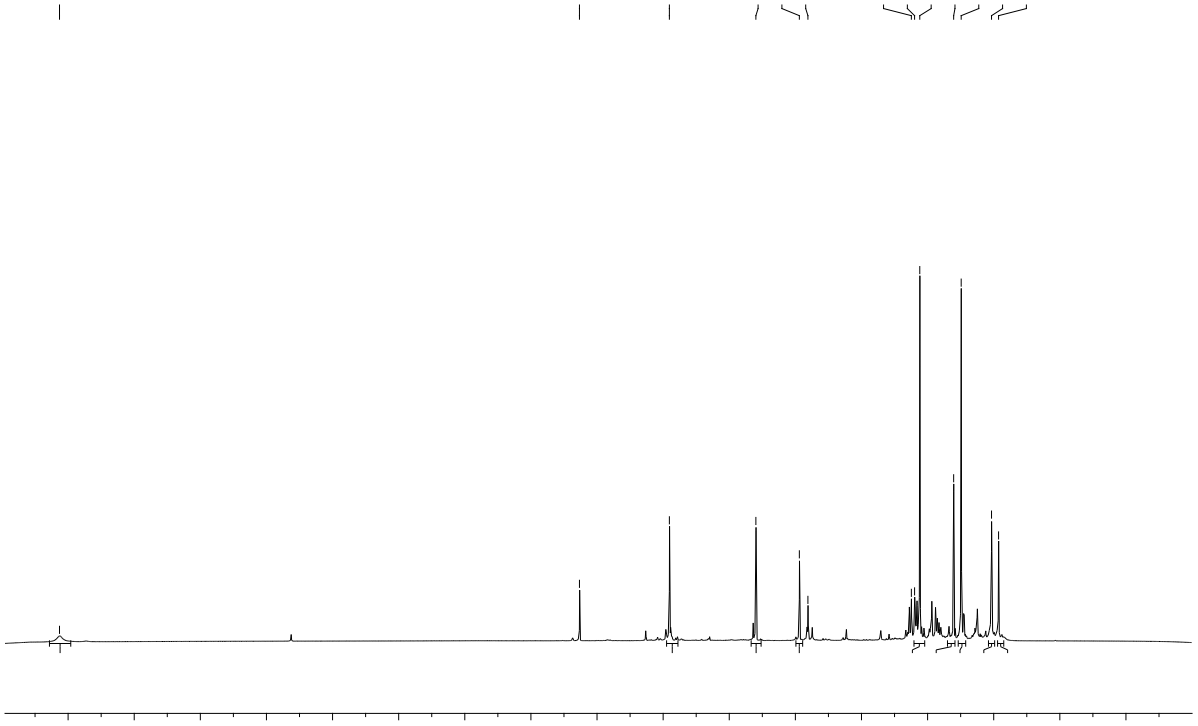
IR spectrum of **(*S*,*S*)-5b**



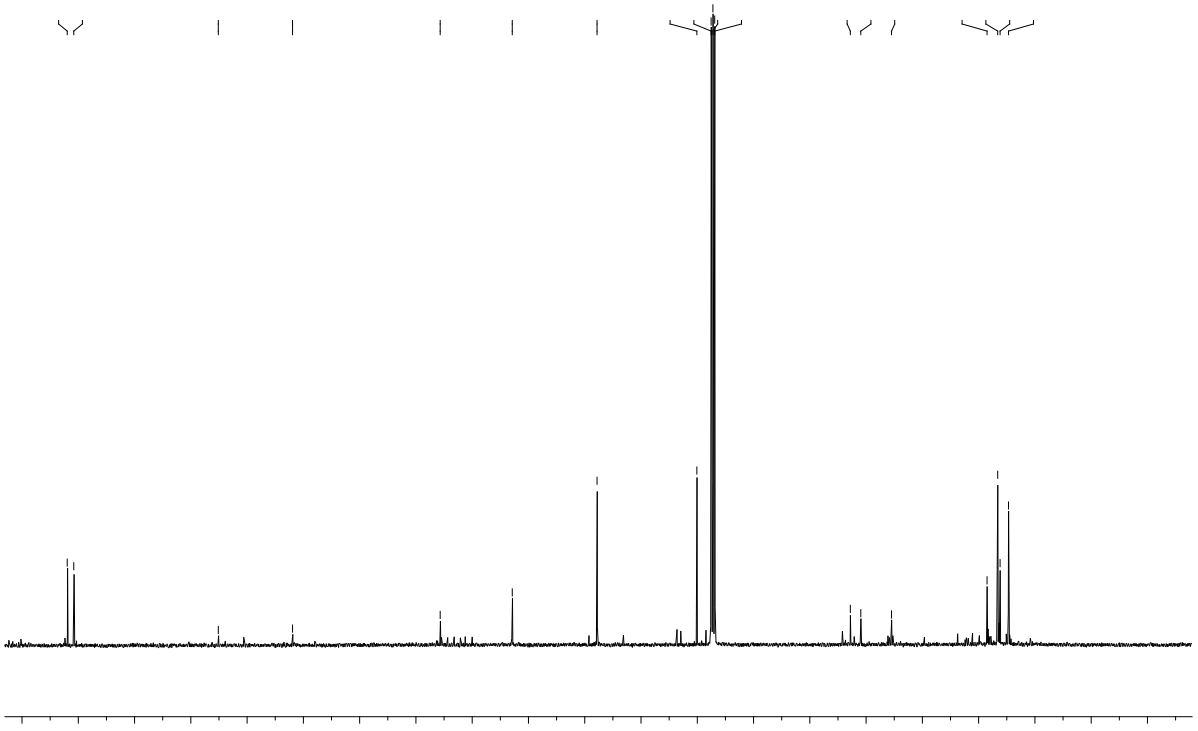
Result of Peak Picking

No.	Position	Intensity
1	3459.67	43.657
2	2958.27	14.1777
3	2872.45	25.6399
4	2808.81	66.6721
5	1647.88	6.94506
6	1564.95	3.28401
7	1489.74	28.3326
8	1420.32	7.95915
9	1359.57	8.28742
10	1277.61	11.1482
11	1233.25	21.1371
12	1196.61	34.9368
13	1167.69	24.3512
14	1105.98	9.457
15	982.554	30.8573
16	945.913	21.5773
17	906.379	59.0905
18	856.239	34.6893
19	781.993	28.3798
20	719.318	39.622
21	673.999	52.4003
22	603.61	50.5572
23	527.436	46.745
24	486.938	64.8864

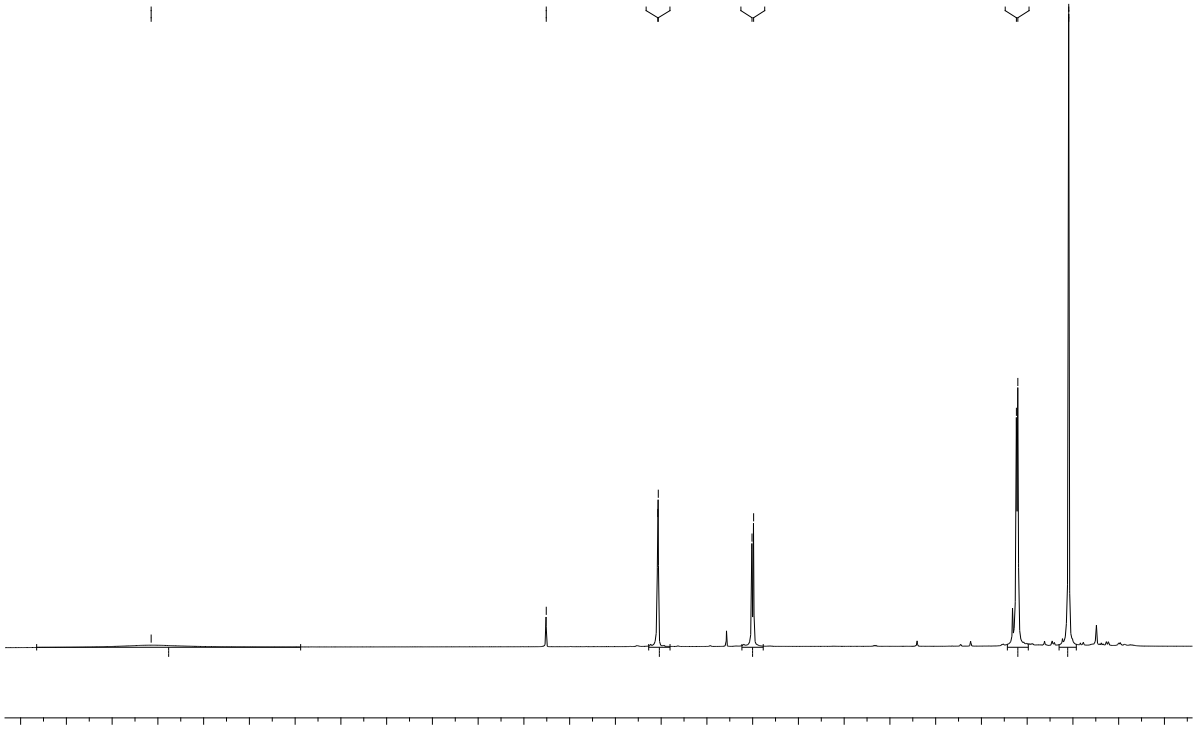
^{1}H NMR of 1,1'-((4*R*,5*R*)-2,2-dimethyl-1,3-dioxolane-4,5-diyl)bis(butan-1,3-dione) (**(*R*,*R*)-6**) ($CDCl_3$)



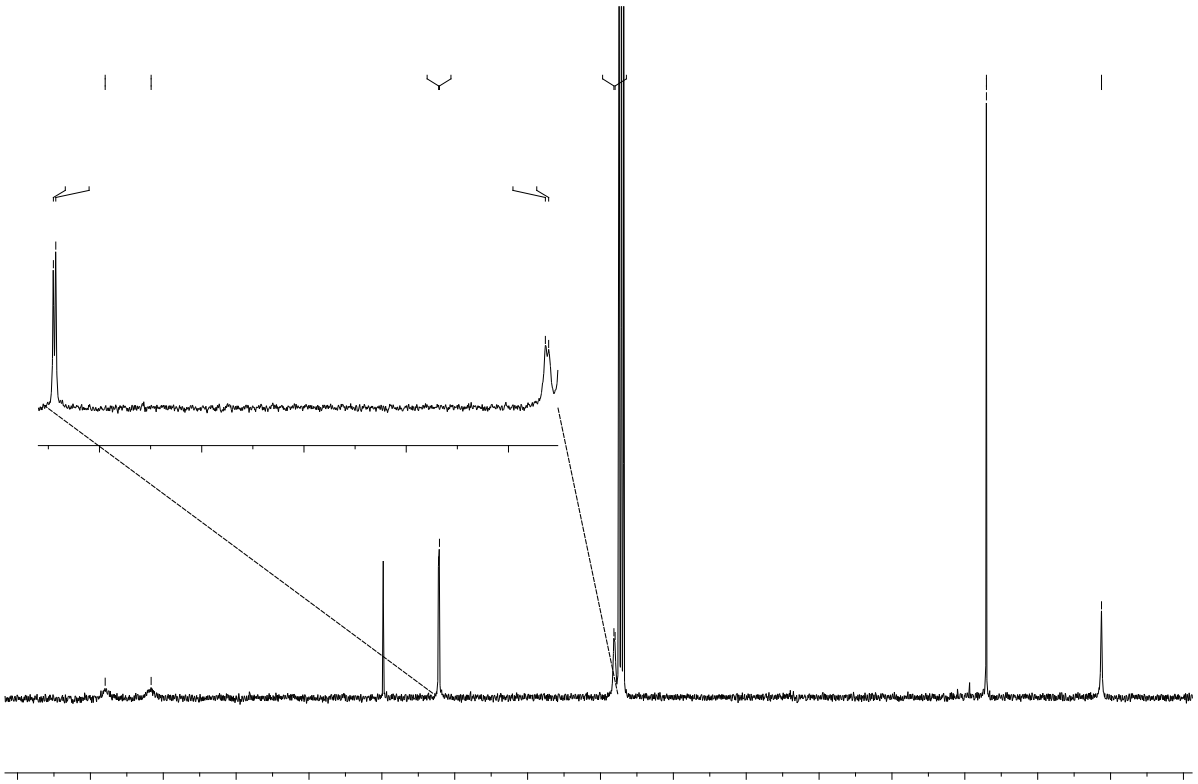
^{13}C NMR of (**(*R*,*R*)-6**) ($CDCl_3$)



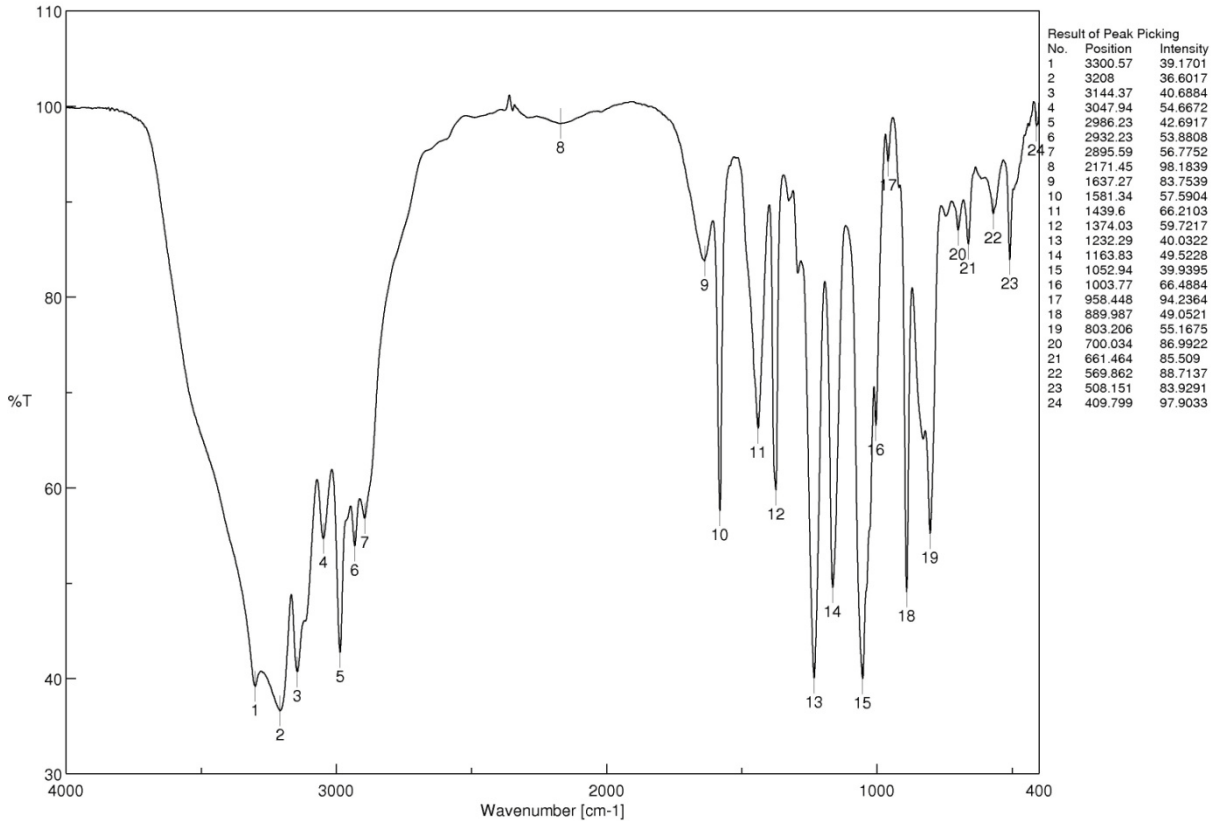
^{1}H NMR of 3,3'-((4*S*,5*S*)-2,2-dimethyl-1,3-dioxolane-4,5-diyl)bis(5-methyl-pyrazole) (**(*S*,*S*)-7**) ($CDCl_3$)



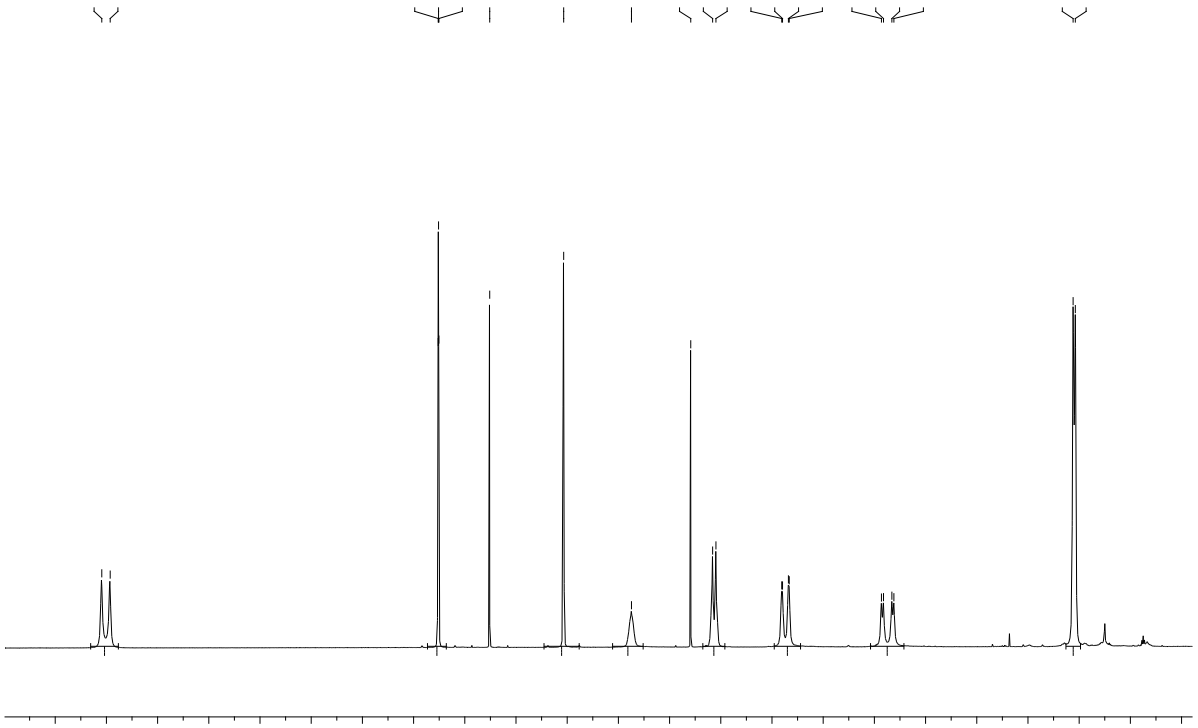
^{13}C NMR of **(*S*,*S*)-7** ($CDCl_3$)



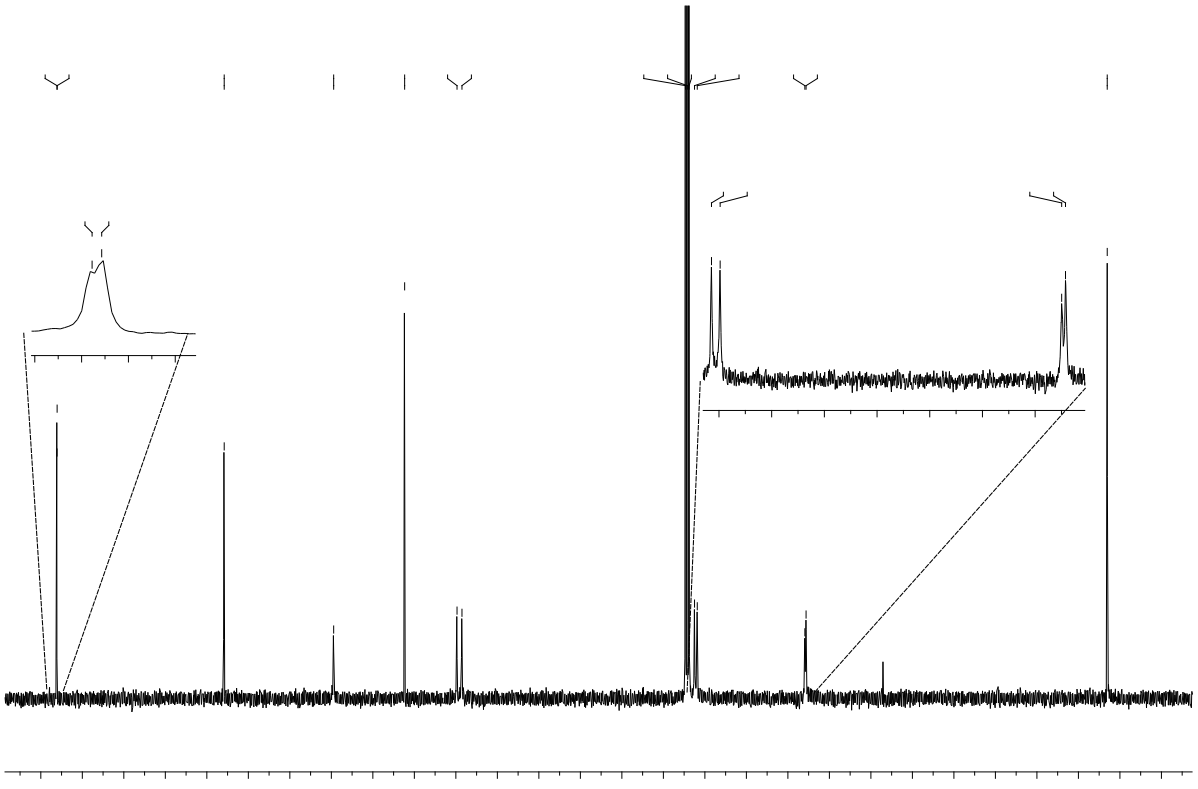
IR spectrum of **(*S*,*S*)-7**



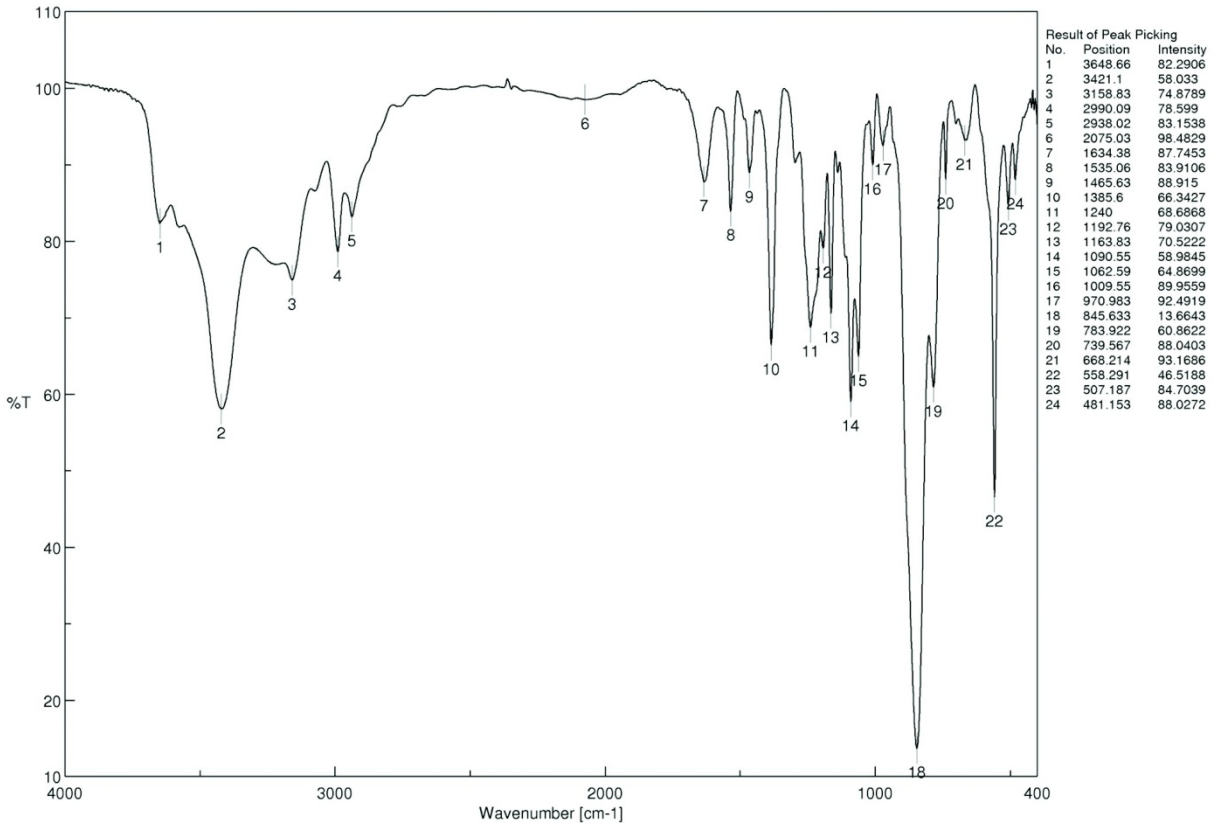
^{1}H NMR of [Pd(η^3-Allyl)(bpz)]PF_6 (**8**) ($CDCl_3$)



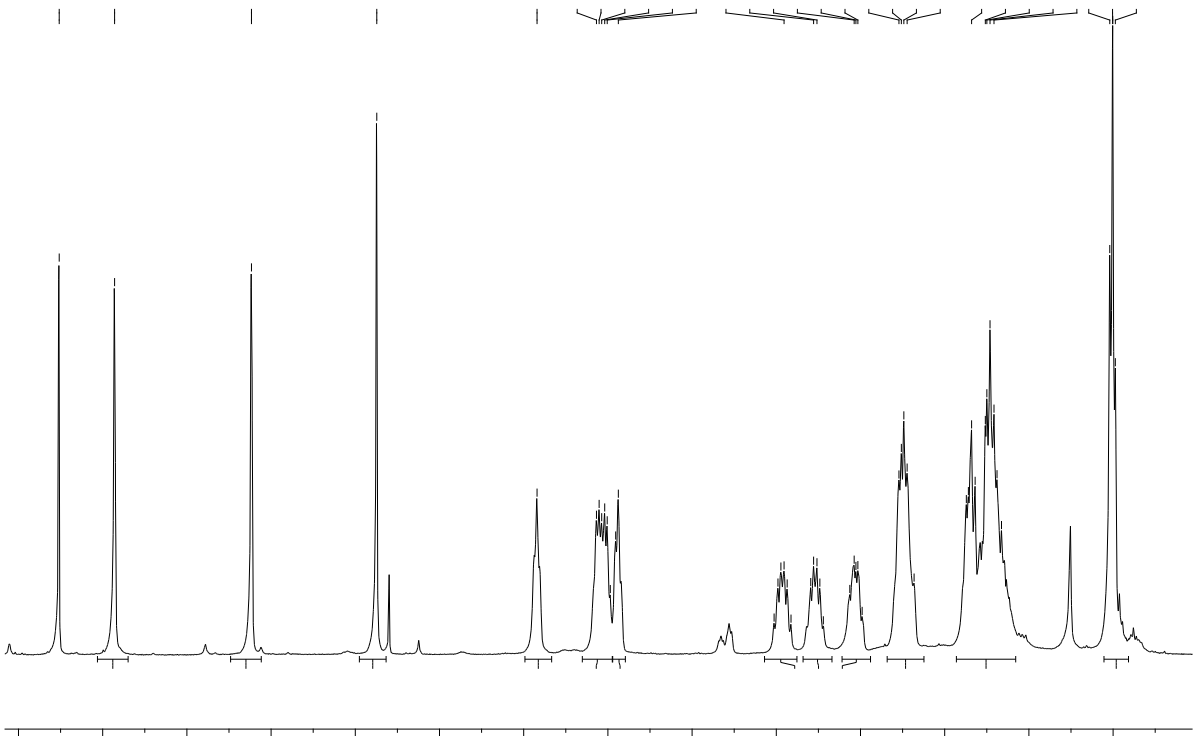
^{13}C NMR of complex **8** ($CDCl_3$)



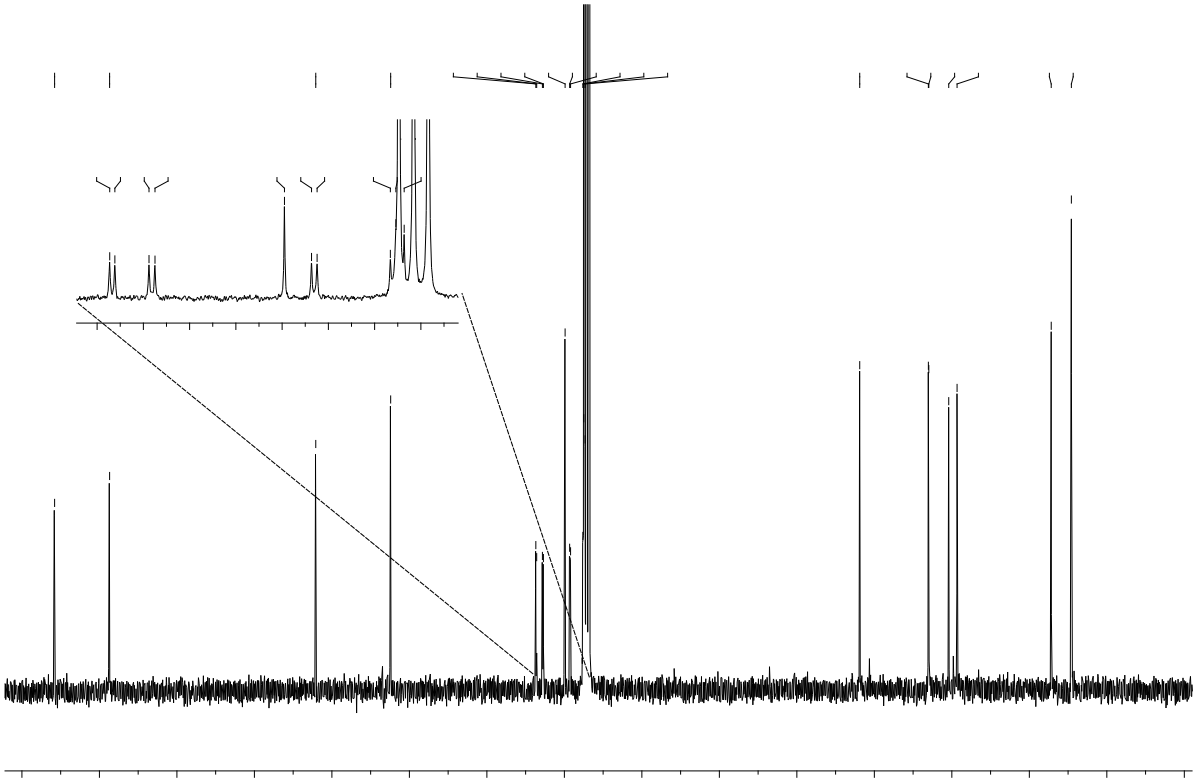
IR spectrum of complex (**8**)



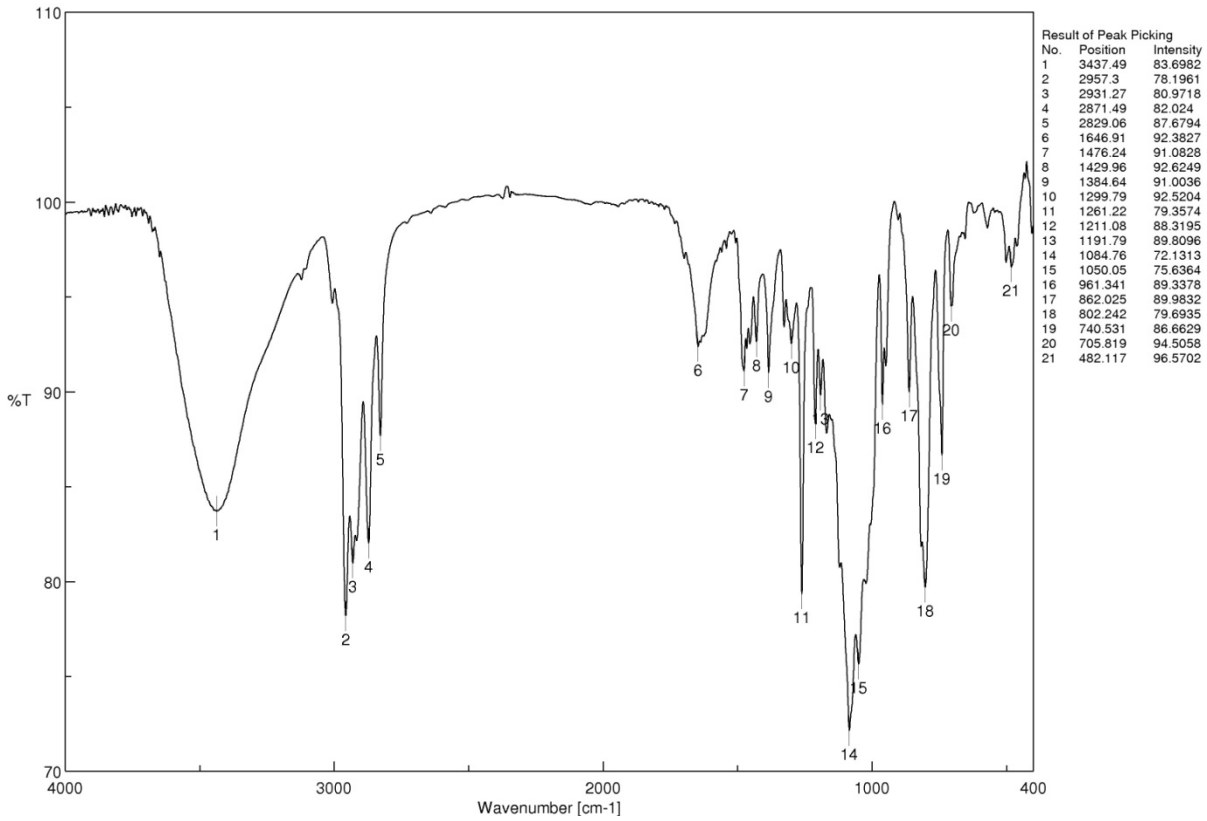
^{1}H NMR of [(Rh(COD))$_2$bpz] (**9**) ($CDCl_3$)



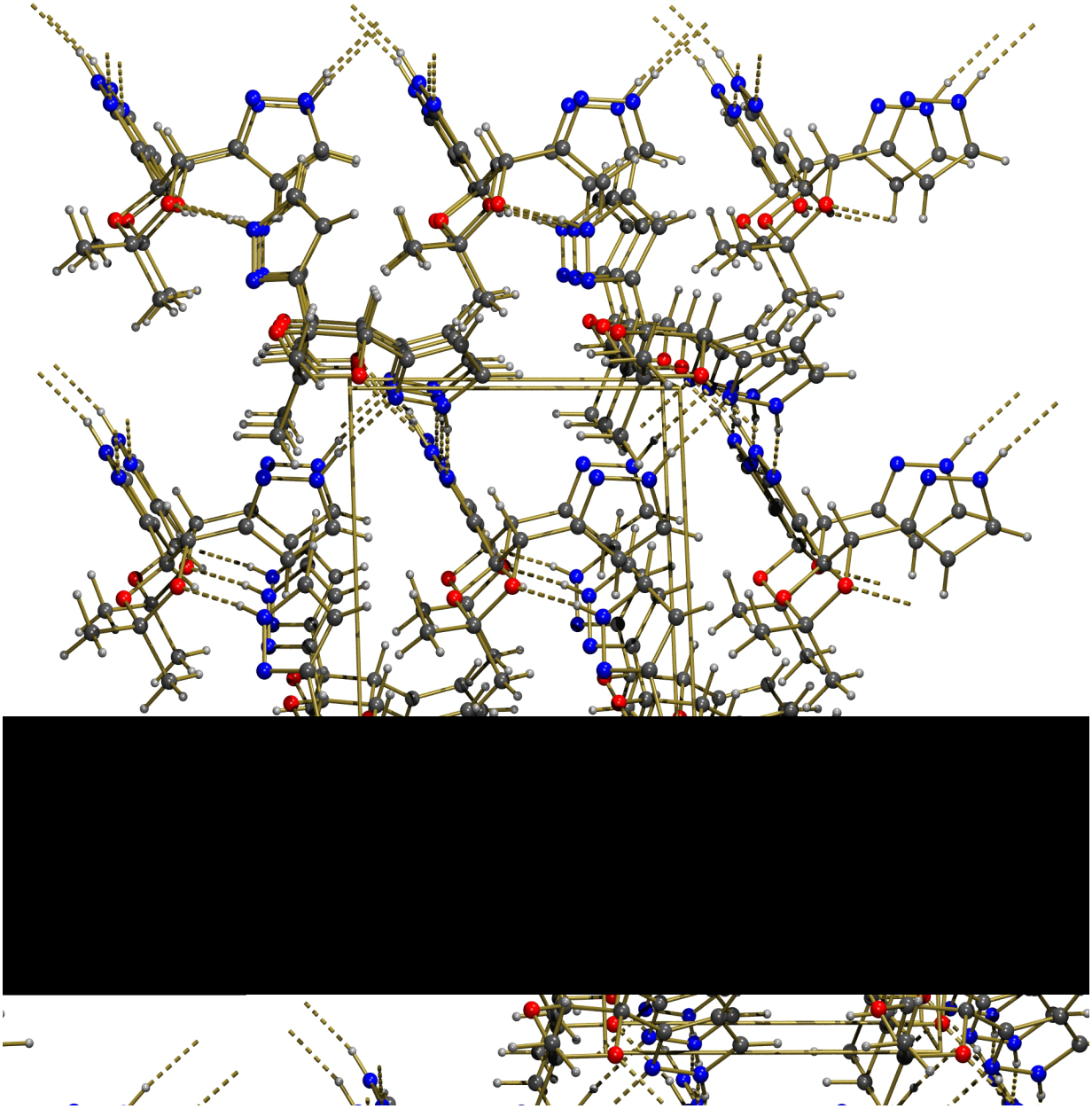
^{13}C NMR of complex **9** ($CDCl_3$)



IR spectrum of complex (**9**)



3D-Structure of **(*S,S*)-5a** by hydrogen bonds



Remark 1: The absolute configuration of **(*S,S*)-5a** could not be determined by the Flack parameter value but is clear through the synthetic procedure.

Remark 2: In **(*S,S*)-8** the allyl moiety was disordered in two sites. Usual geometrical restraints and restraints on displacement parameters were used to make the final model chemically reasonable. Geometrical restraints SADI were applied to get reasonably equal distances between the Pd centre and the middle carbon atoms of the two sites of the allyl group. The restraints on displacement parameters like SIMU and DELU were used to enable the atoms which are bonding together to move similarly. For C13a, ISOR restraint avoided NPD trend of this atom.

Remark 3: The absolute configuration of **(*S,S*)-8** was determined by the Flack parameter value.

Remark 4: The absolute configuration of **(*S,S*)-9** was determined by the Flack parameter value.