### Design of a structural framework with potential use to develop balanced multifunctional agents against Alzheimer's disease

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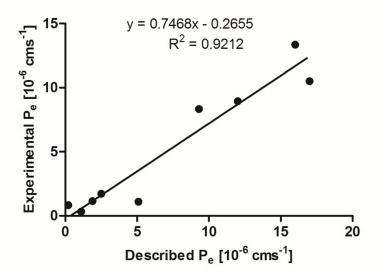
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Compd	Bibl. <sup>a</sup>	Exp. <sup>b</sup>
Testosterone	17	$10.50 \pm 0.57$
Piroxicam	2.5	$1.72 \pm 0.03$
Desipramine	12	$8.94 \pm 0.46$
Verapamil	16	$13.36 \pm 0.85$
Lomefloxacin	1.1	$0.32 \pm 0.01$
Corticosterone	5.1	$1.09 \pm 0.12$
Progesterone	9.3	$8.33 \pm 0.25$
Dopamine	0.2	$0.83 \pm 0.74$
Hydrocortisone	1.9	$1.14 \pm 0.03$

**Table S1.** Permeability ( $P_e \ 10^{-6} \text{ cm s}^{-1}$ ) in the PAMPA-BBB Assay of 9 Commercial Drugs Used in the Experiment Validation.

<sup>a</sup>Taken from Ref. 1. <sup>b</sup>Data are the mean  $\pm$  SD of three independent experiments.



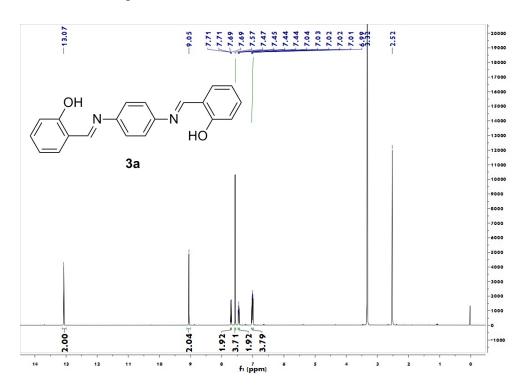
**Fig. S1.** Linear correlation between experimental and reported permeability of commercial drugs using the PAMPA-BBB assay.

#### References

[1] L. Di, E. H. Kerns, K. Fan, O. J. McConnell and G. T. Carter, *Eur. J. Med. Chem.* 2003, 38, 223-232.

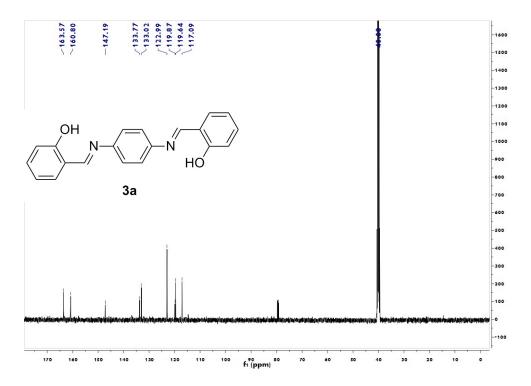
#### Contents

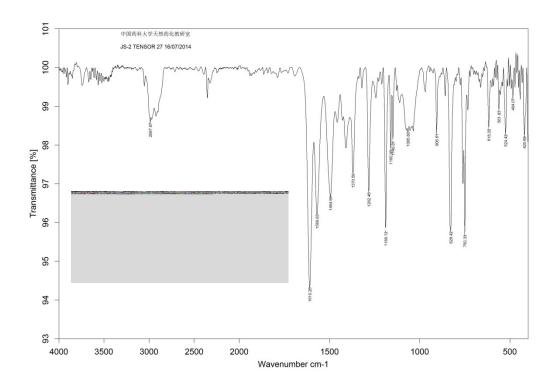
The representative <sup>1</sup>H NMR, <sup>13</sup>C NMR spectra, IR spectra and HRMS spectra of compounds.



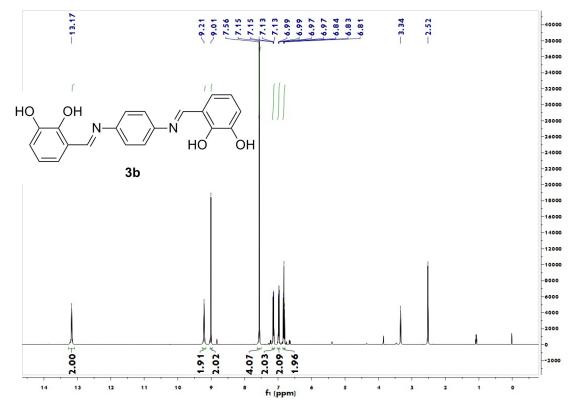
<sup>1</sup>H NMR of compound **3a** in DMSO

<sup>13</sup>C NMR of compound **3a** in DMSO

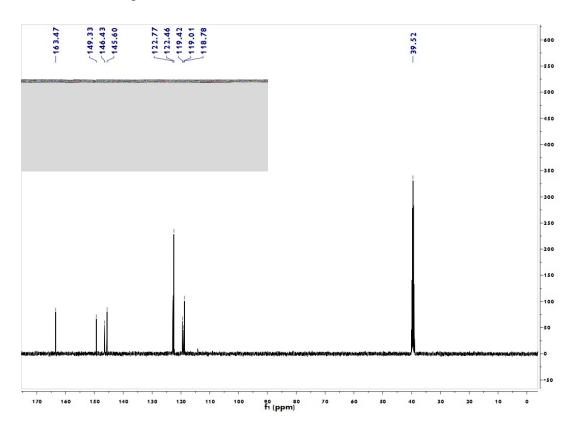




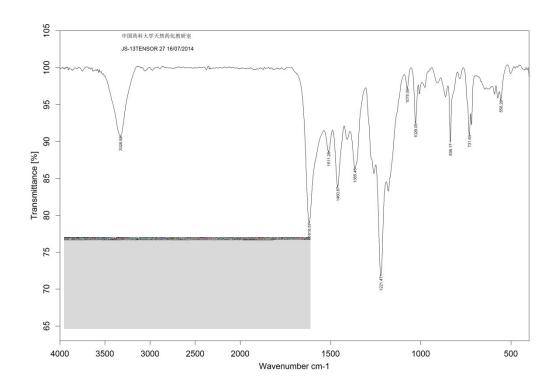
<sup>1</sup>H NMR of compound **3b** in DMSO



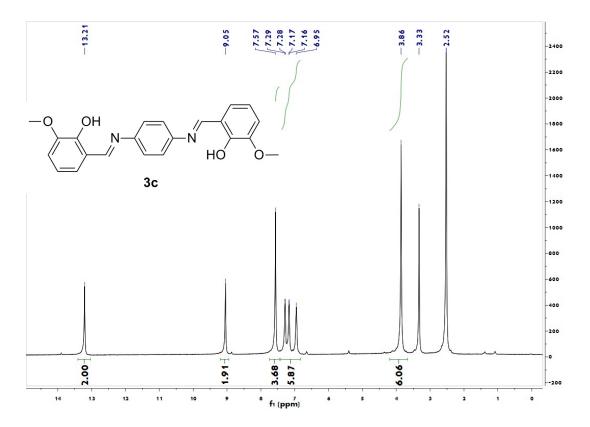
<sup>13</sup>C NMR of compound **3b** in DMSO



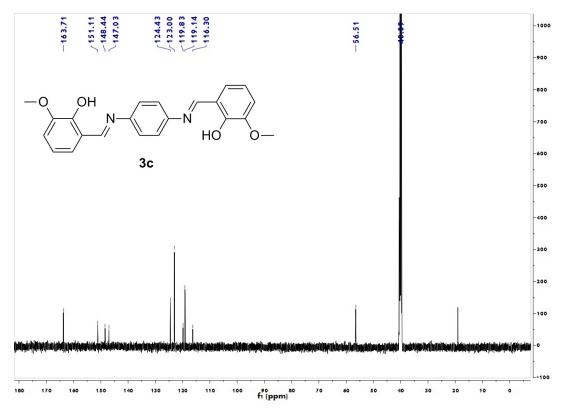
IR of compound **3b** 

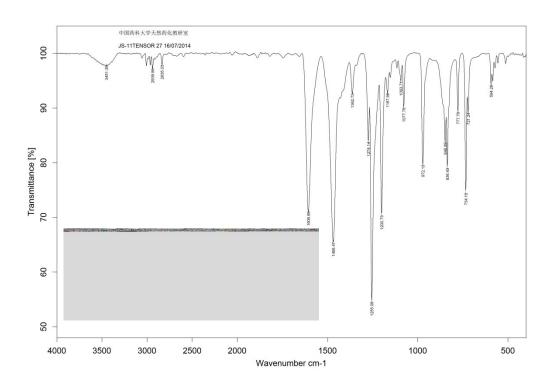


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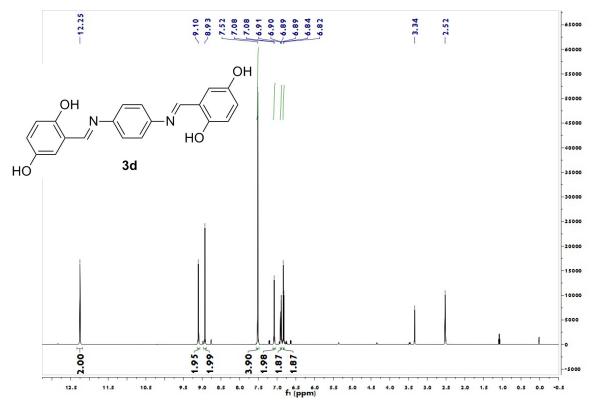


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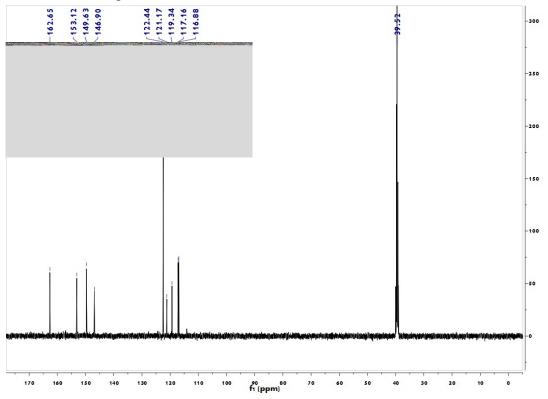




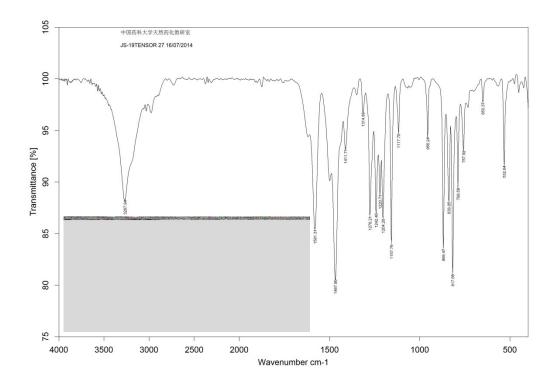
<sup>1</sup>H NMR of compound **3d** in DMSO



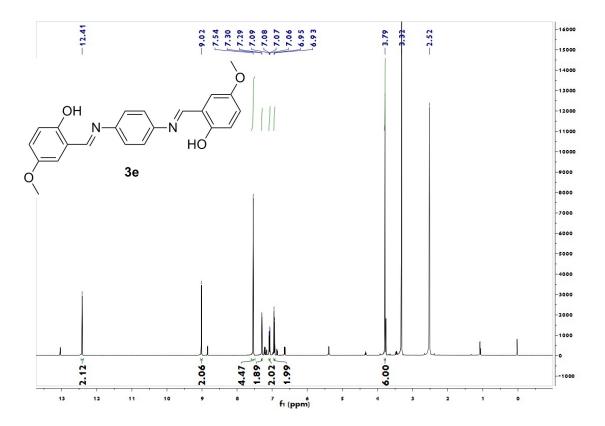
# <sup>13</sup>C NMR of compound **3d** in DMSO



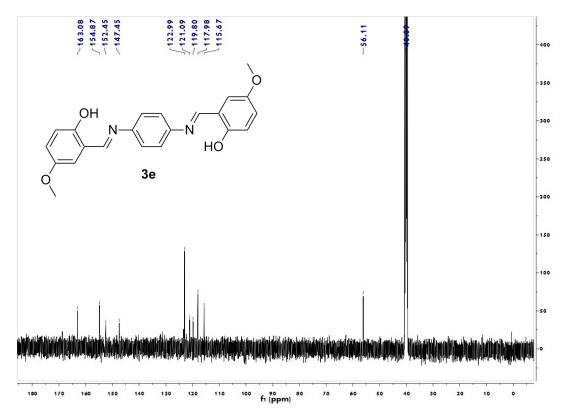
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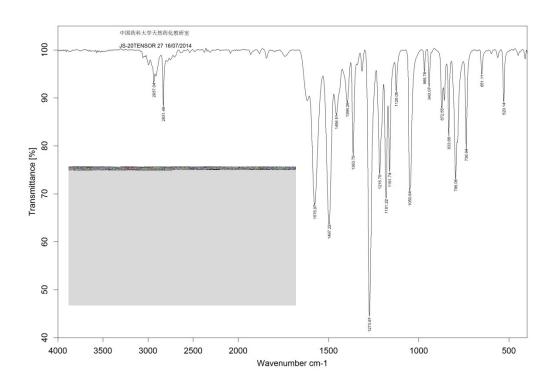
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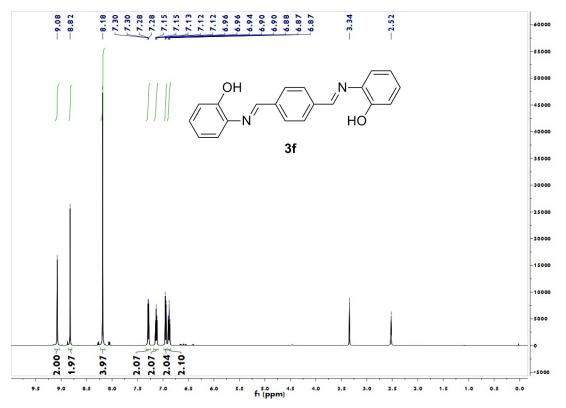
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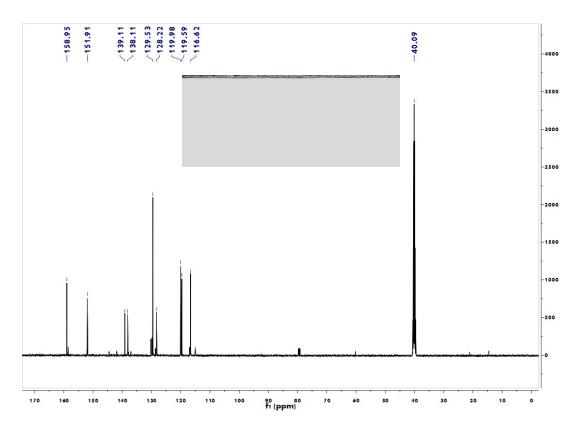
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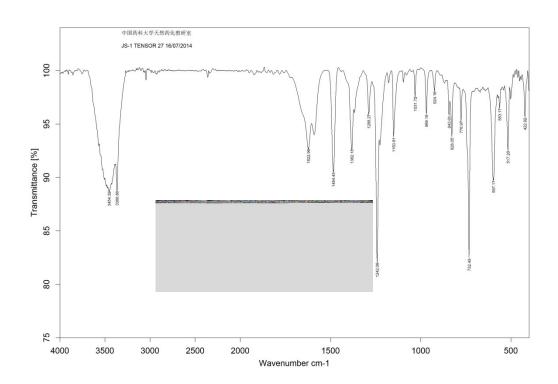
 $^1\mathrm{H}$  NMR of compound  $\mathbf{3f}$  in DMSO



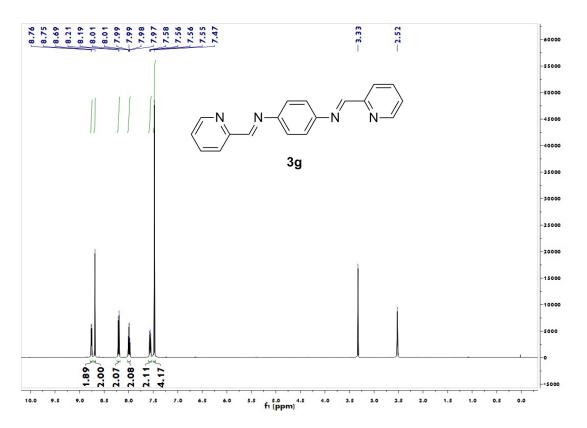
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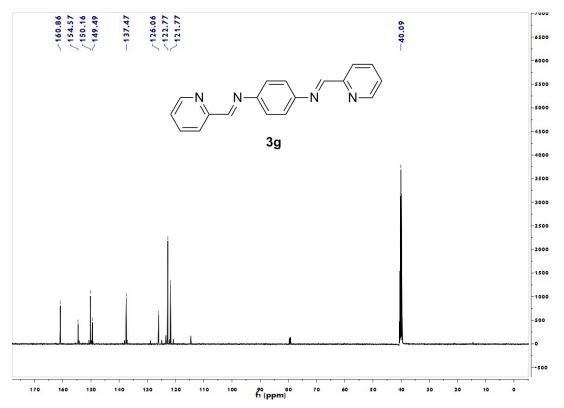
IR of compound  $\mathbf{3f}$ 



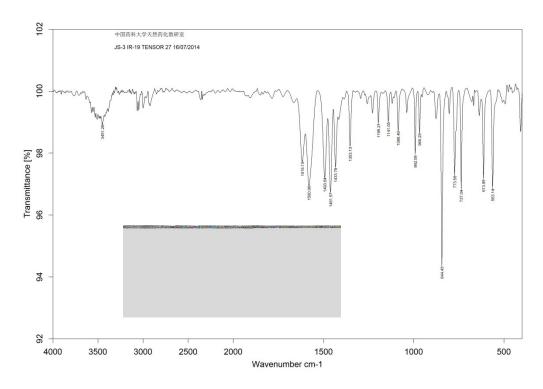
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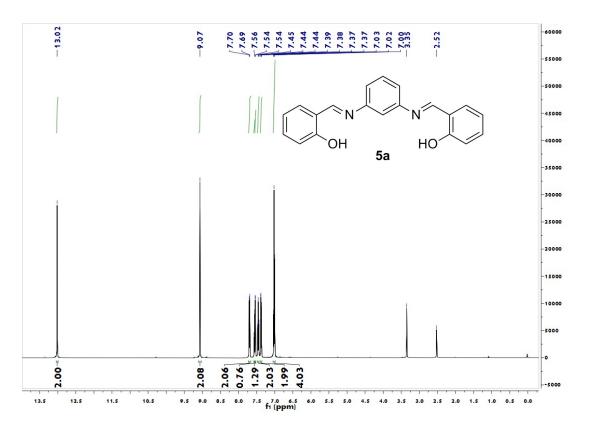
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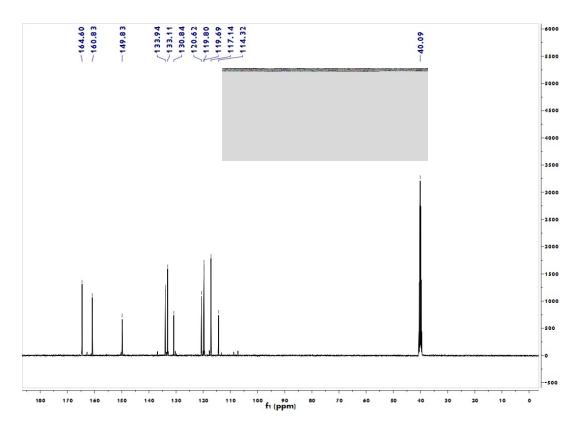
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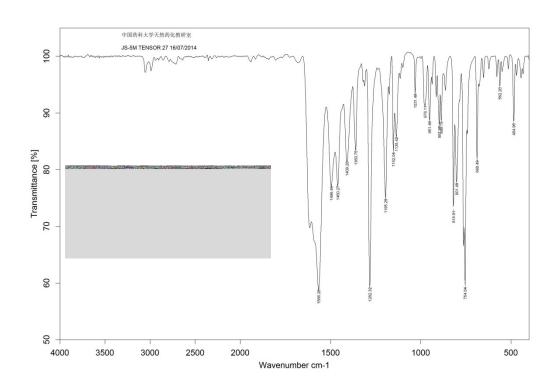
<sup>1</sup>H NMR of compound **5a** in DMSO



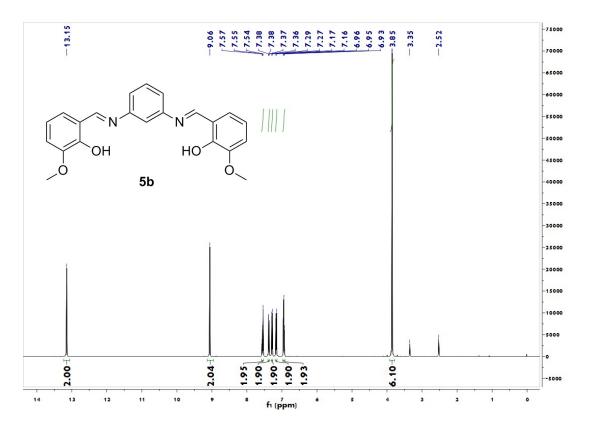
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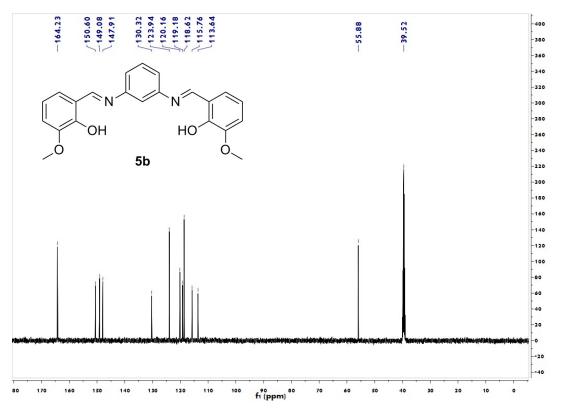
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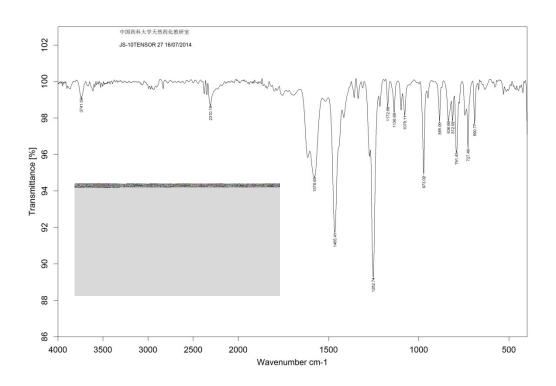
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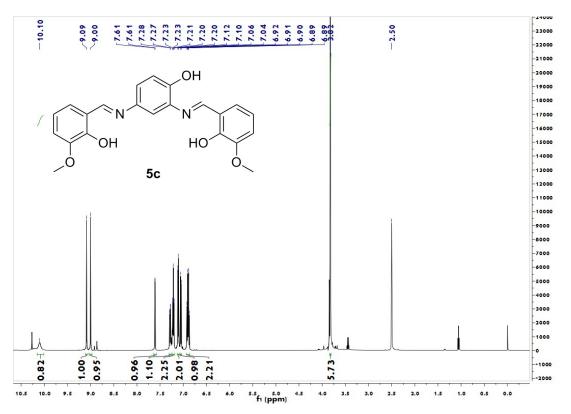
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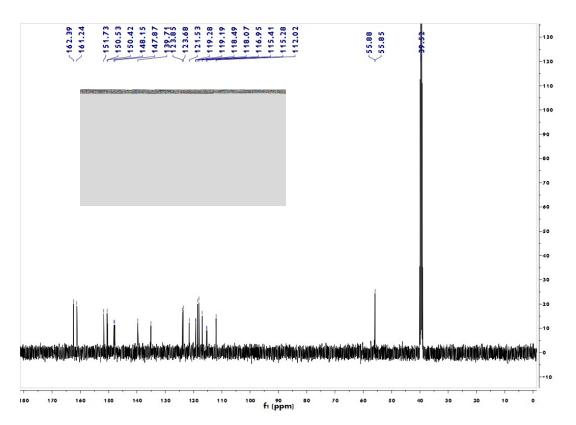
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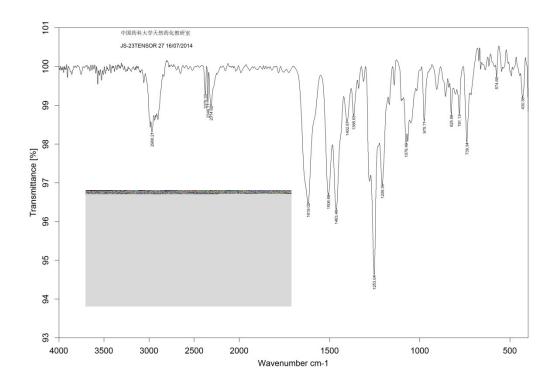
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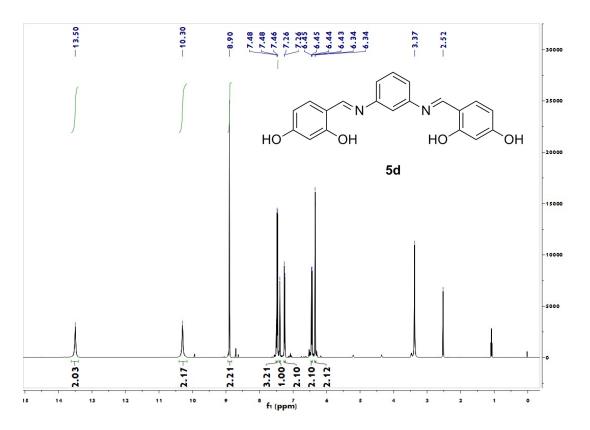
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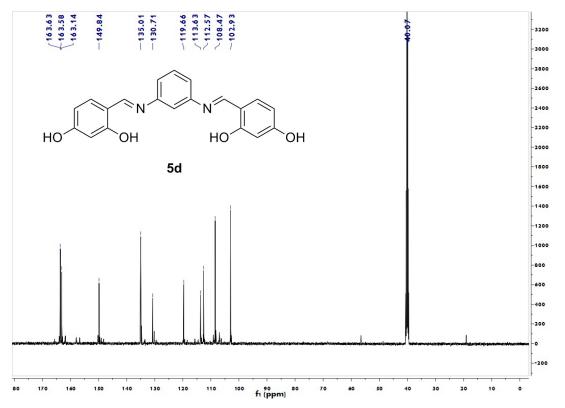
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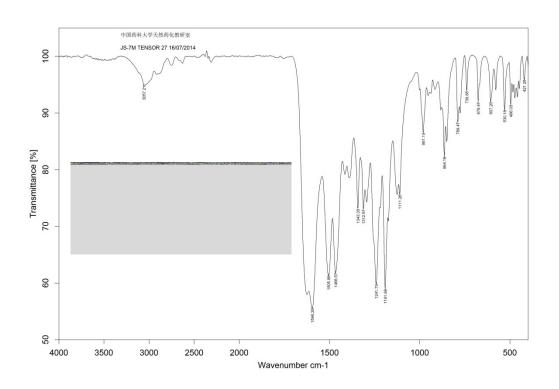


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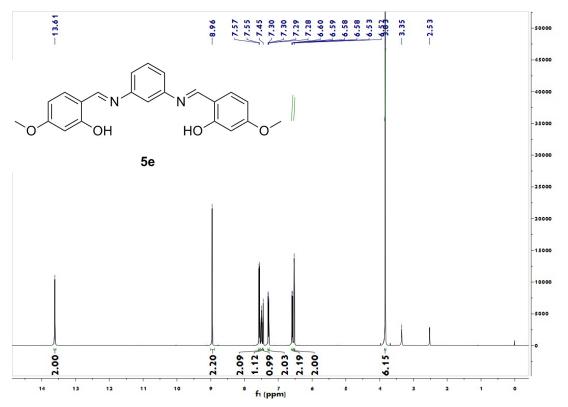


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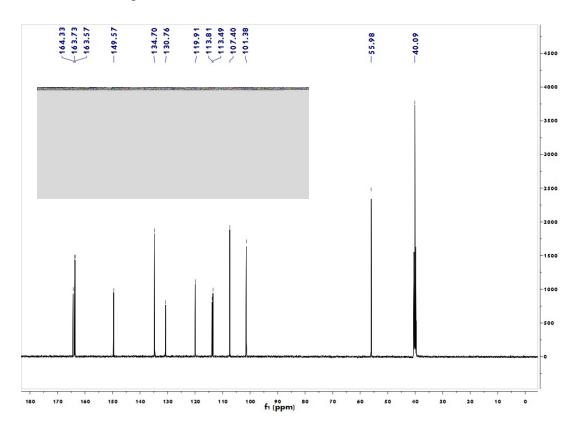




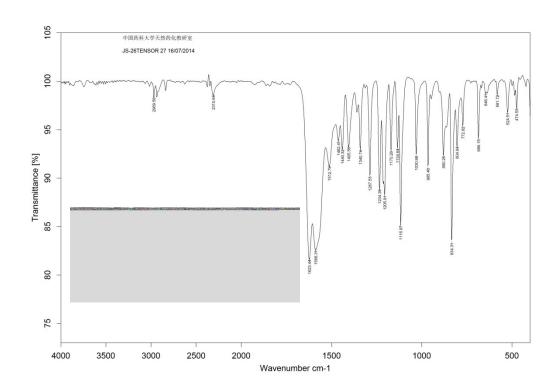
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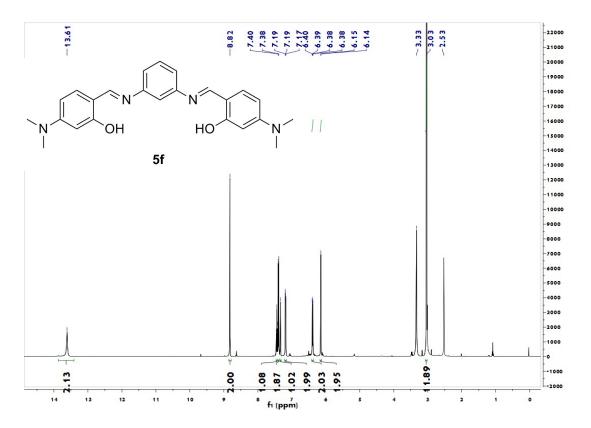
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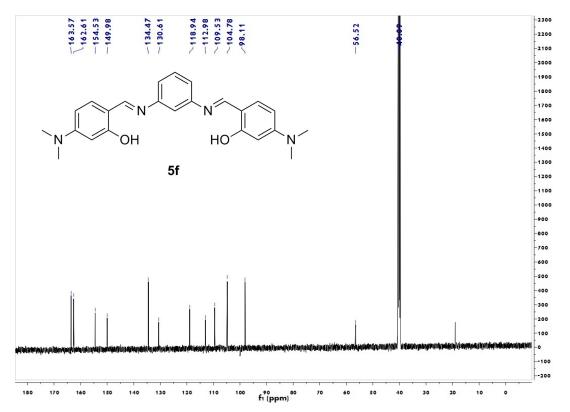
IR of compound 5e

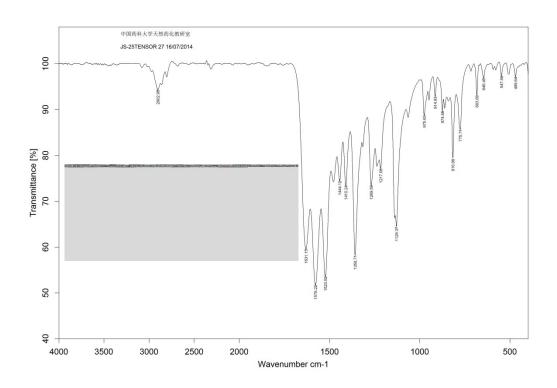


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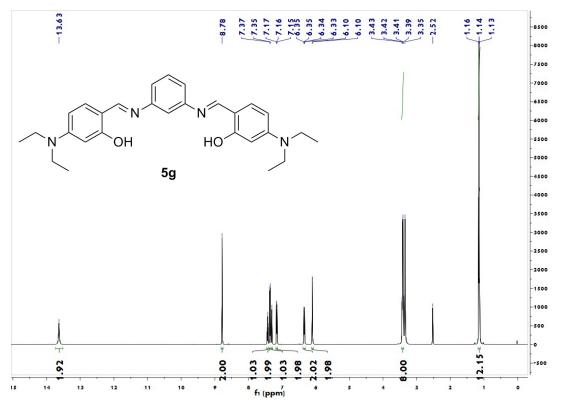


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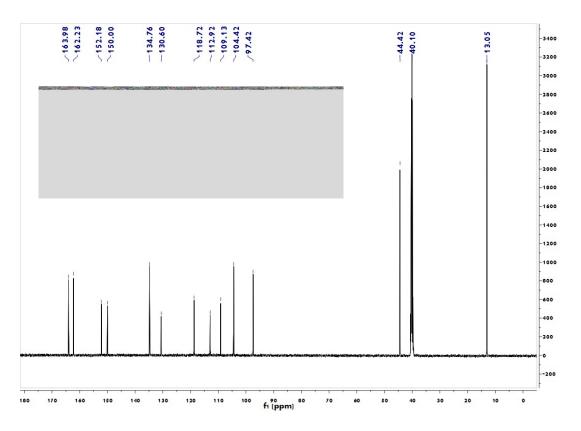




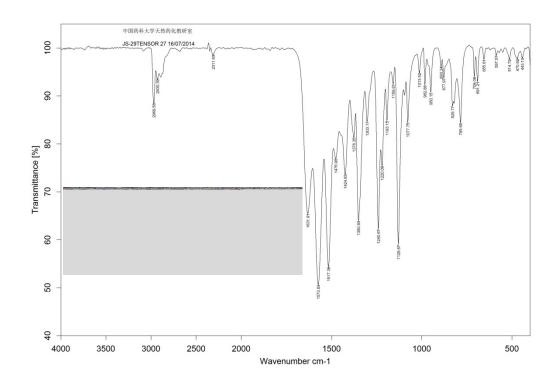
<sup>1</sup>H NMR of compound **5g** in DMSO



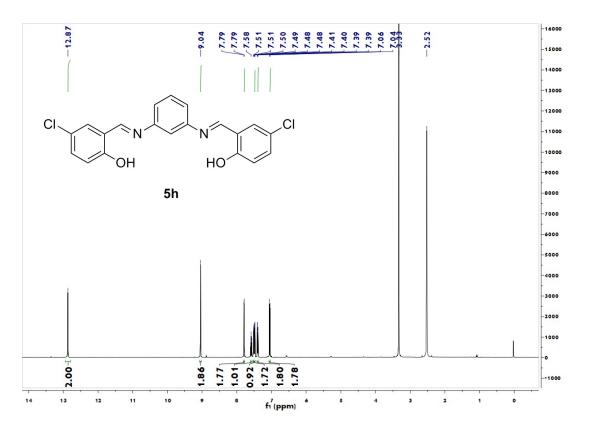
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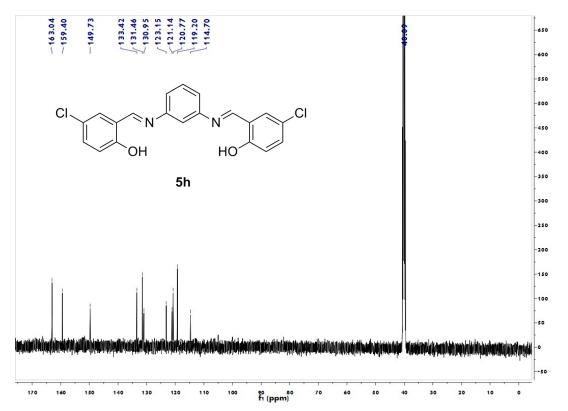
IR of compound 5g



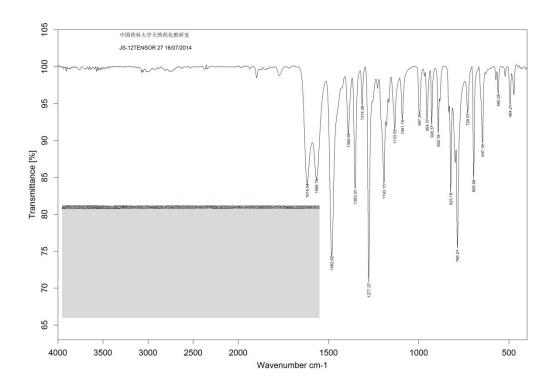
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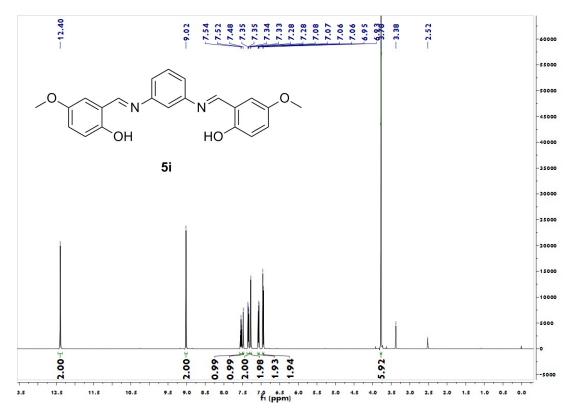
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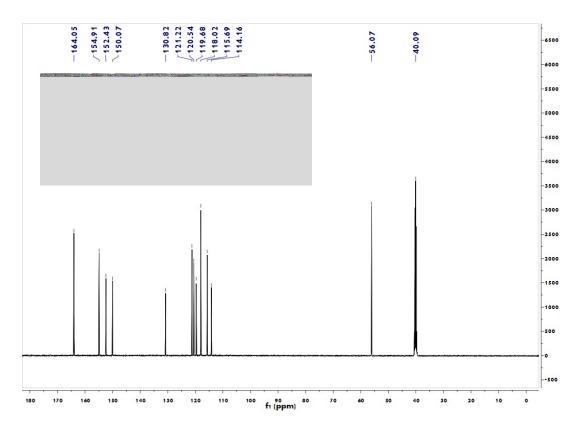
# IR of compound **5h**



# <sup>1</sup>H NMR of compound **5i** in DMSO



<sup>13</sup>C NMR of compound **5i** in DMSO



IR of compound 5i

