

## Electronic Supplementary Information

### **Structural modulation of insulin by hydrophobic and hydrophilic molecules**

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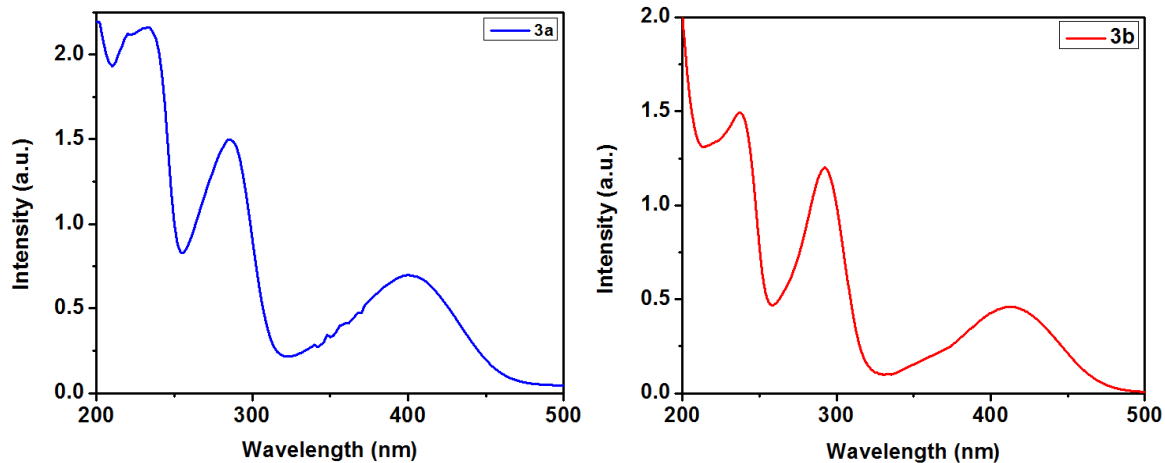


Figure S1: UV-vis spectroscopy of **3a** and **3b**

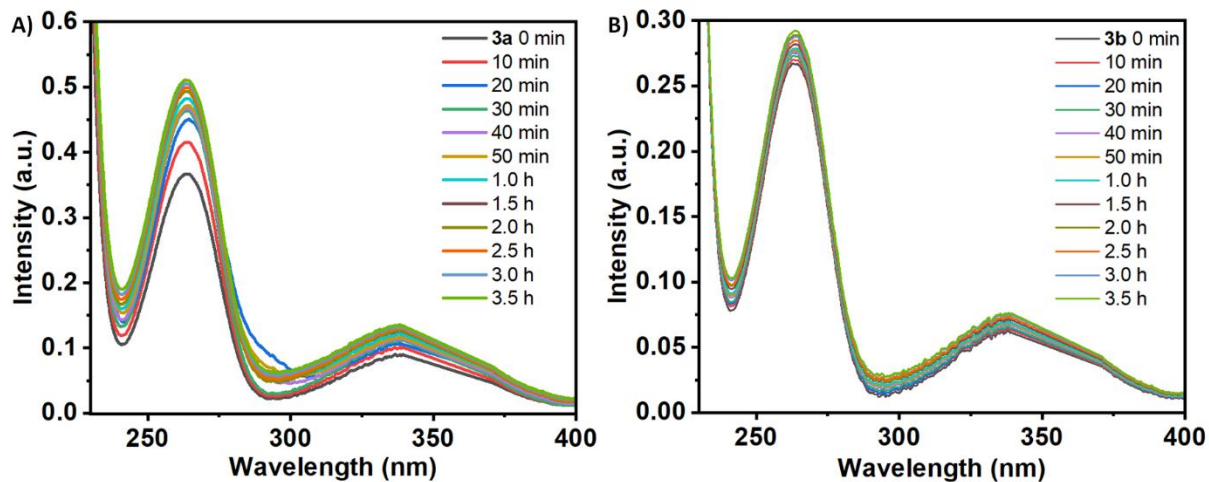


Figure S2: UV-vis spectroscopy of (A) **3a** and (B) **3b** with time.

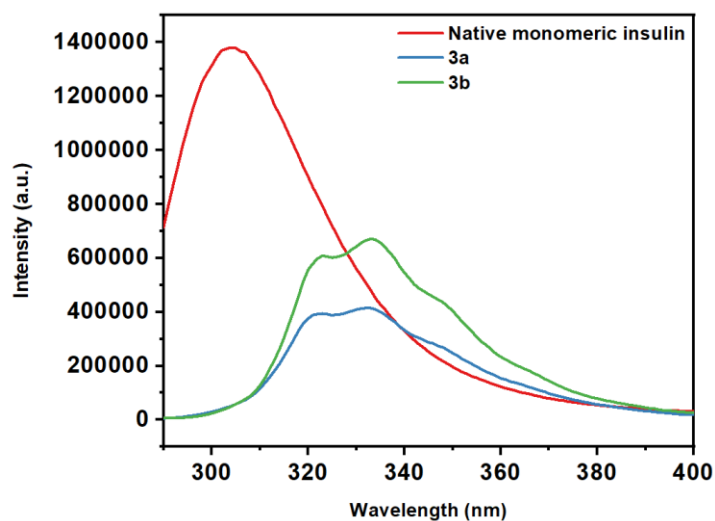


Figure S3: Fluorescence spectra of insulin and synthesized compounds **3a** and **3b** on excitation 276 nm.

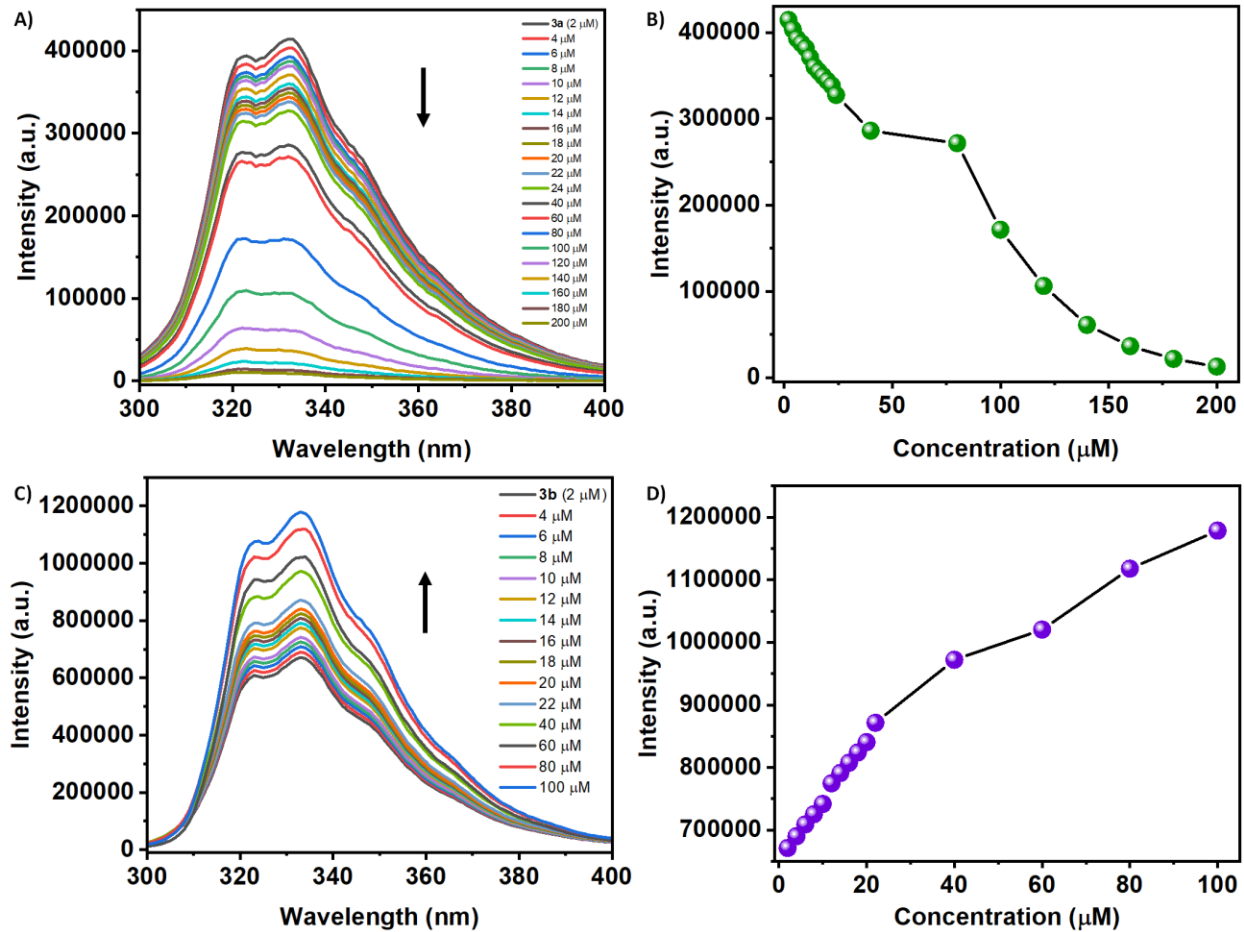


Figure S4: (A) Change of fluorescence of **3a** with increasing concentration, (B) Fluorescence intensity vs concentration plot of **3a**, (C) Change of fluorescence of **3b** with increasing concentration, (D) Fluorescence intensity vs concentration plot of **3b**.

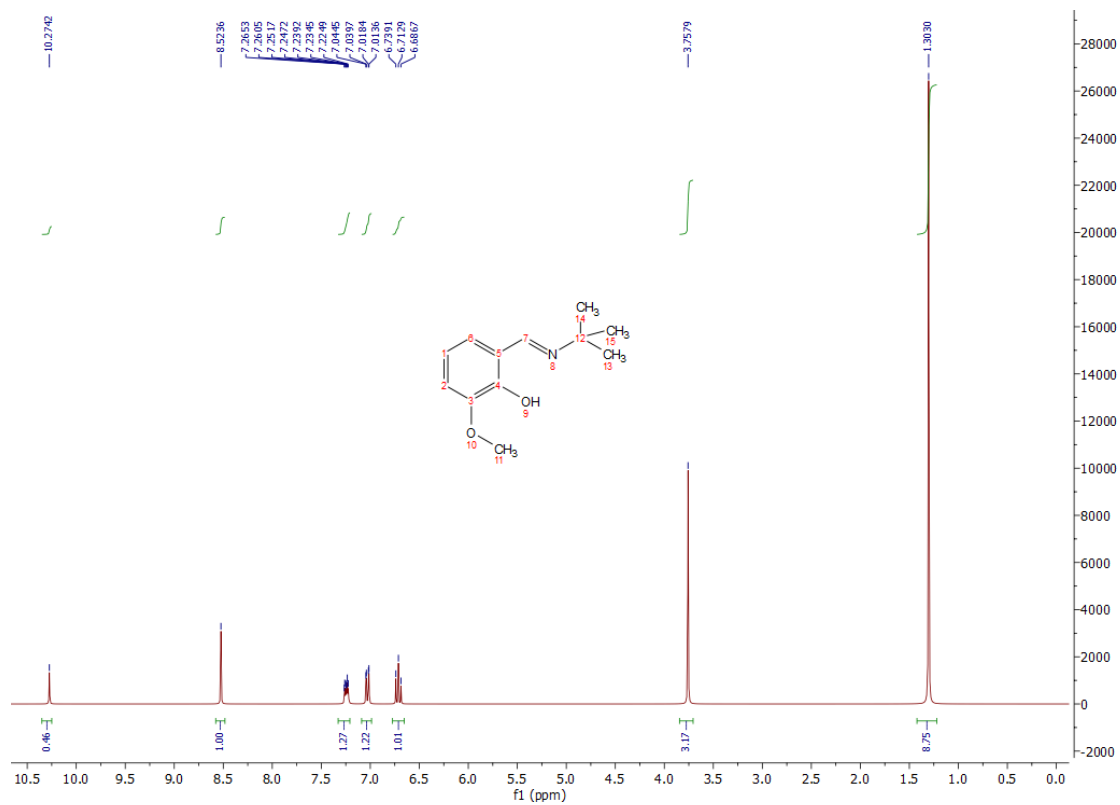


Figure S5. The <sup>1</sup>H NMR spectra of **3a**.

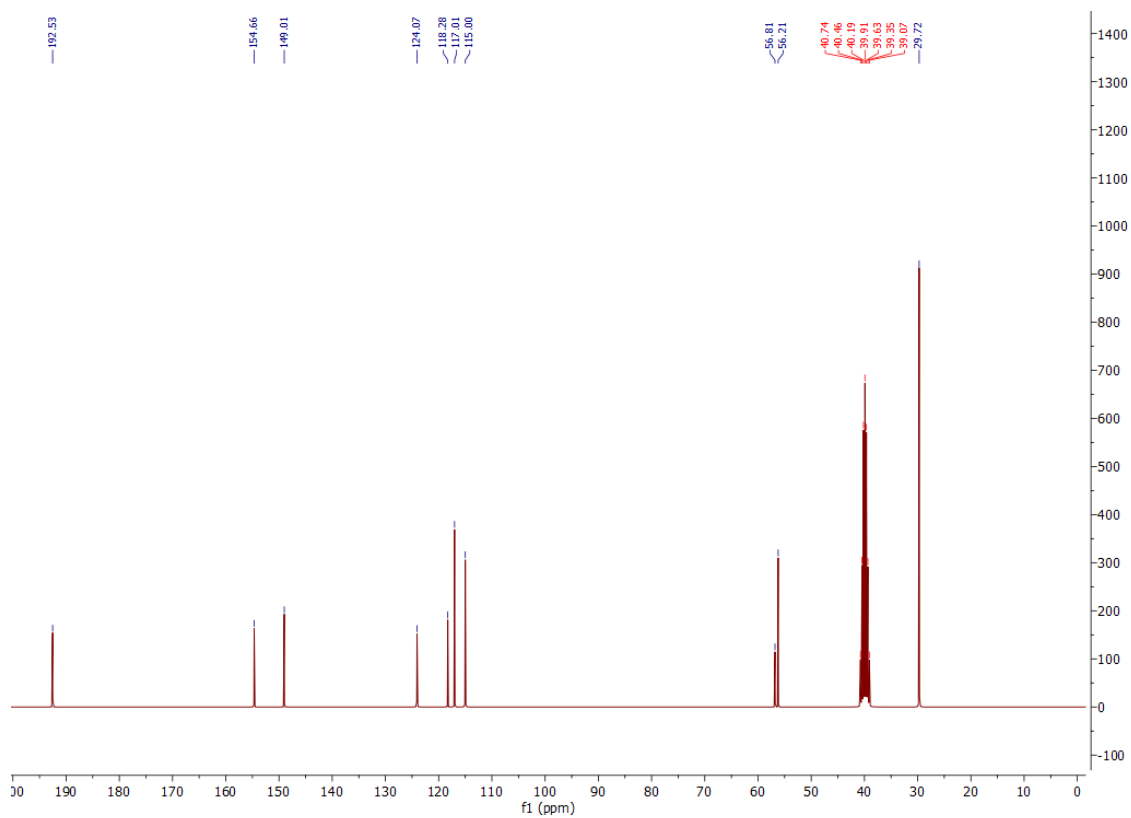


Figure S6. The <sup>13</sup>C NMR spectra of **3a**.

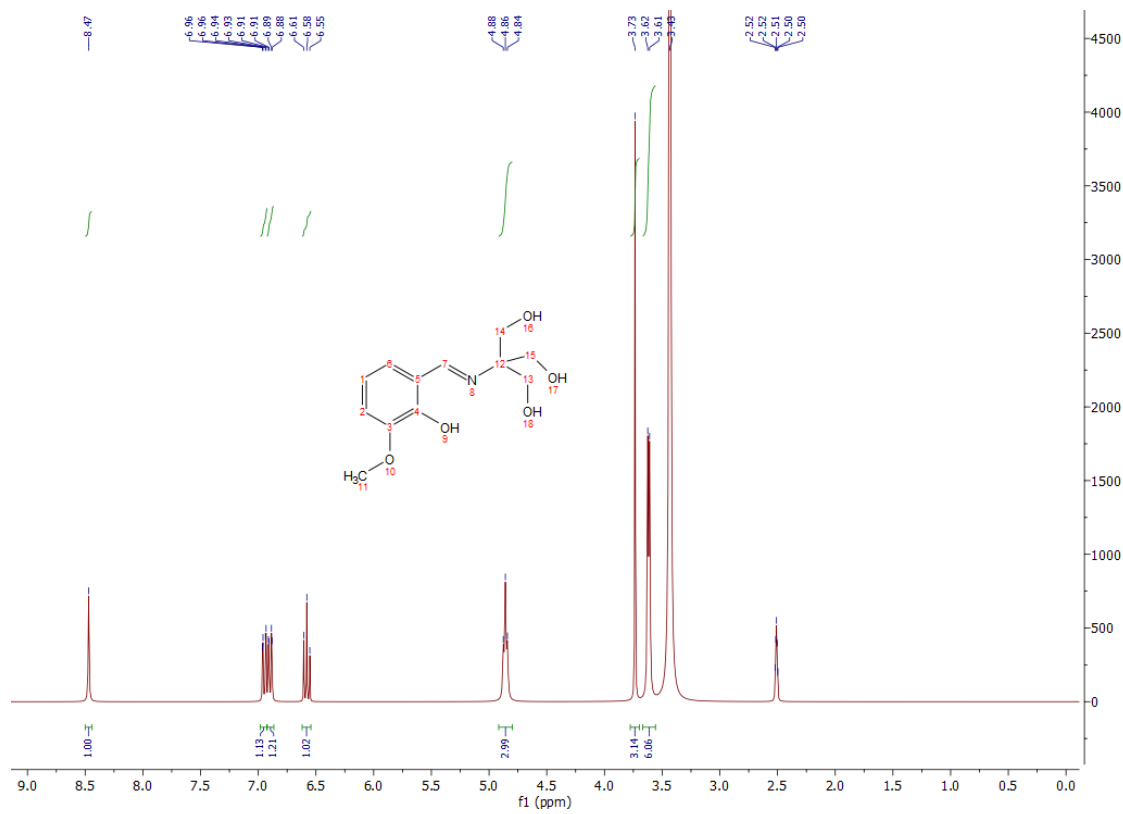


Figure S7. The <sup>1</sup>H NMR spectra of **3b**.

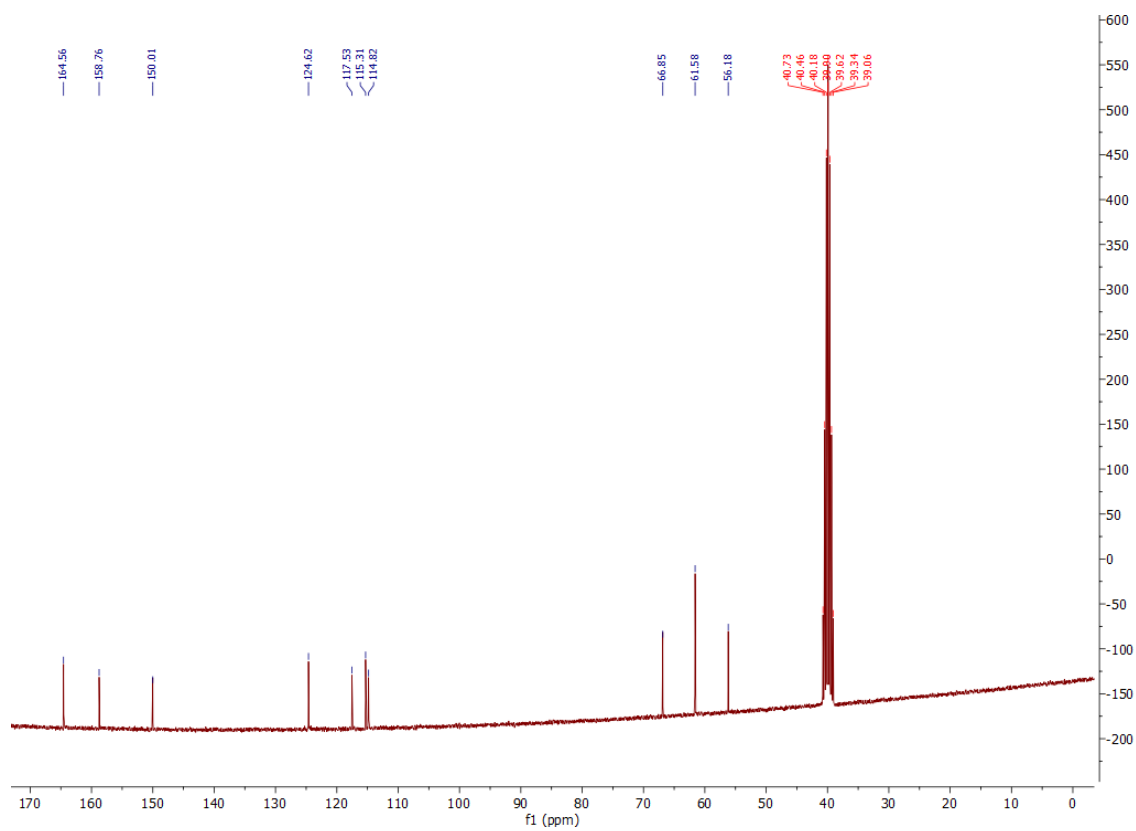


Figure S8. The <sup>13</sup>C NMR spectra of **3b**.

**Table S1: Structural integrity of monomeric insulin in the absence and presence of the Schiff bases 3a and 3b determined by CD calculations.<sup>a</sup>**

<b>Samples</b>	<b>% of <math>\alpha</math> helix</b>	<b>% of <math>\beta</math> sheet</b>	<b>% of Random Coil</b>
Insulin (6 $\mu$ M)	89.93	0.68	1.45
Insulin + <b>3a</b> (1 $\mu$ M)	87.18	1.20	2.50
Insulin + <b>3a</b> (2 $\mu$ M)	83.19	0.38	2.671
Insulin + <b>3a</b> (6 $\mu$ M)	79.34	0.97	3.934
Insulin + <b>3b</b> (1 $\mu$ M)	93.28	0.29	1.25
Insulin + <b>3b</b> (2 $\mu$ M)	92.67	0.28	1.96
Insulin + <b>3b</b> (6 $\mu$ M)	81.93	2.07	5.23

<sup>a</sup> : Calculated by CDNN 2.1 Software