

Supplementary information

Prevention of Insulin Self-aggregation by Protic Ionic Liquid

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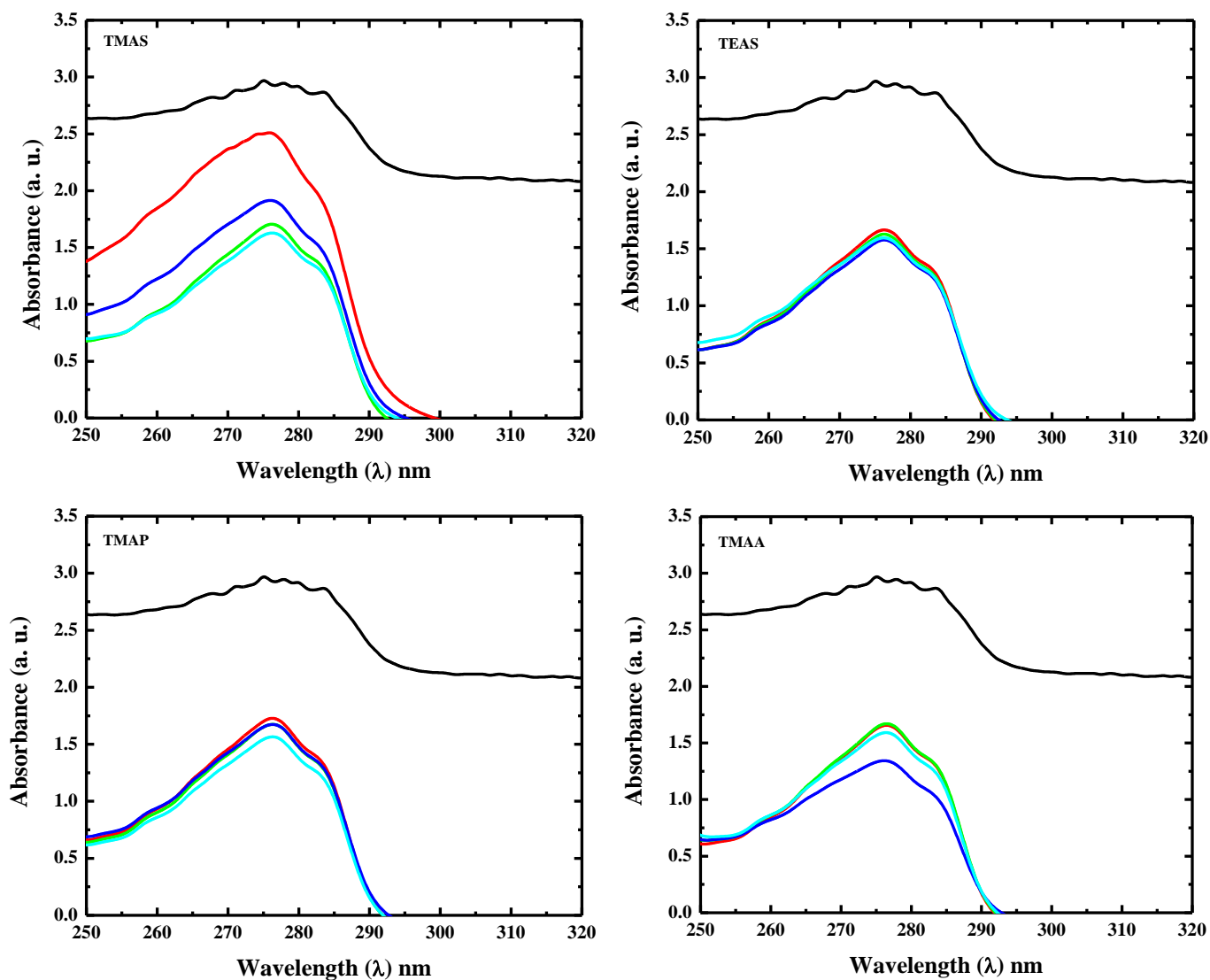


Figure IS. UV-absorbance of *In* in 0.0 M (black), 0.5 M (red), 1.0 M (green), 1.5 M (blue) and 2.0 M (cyan) of ILs.

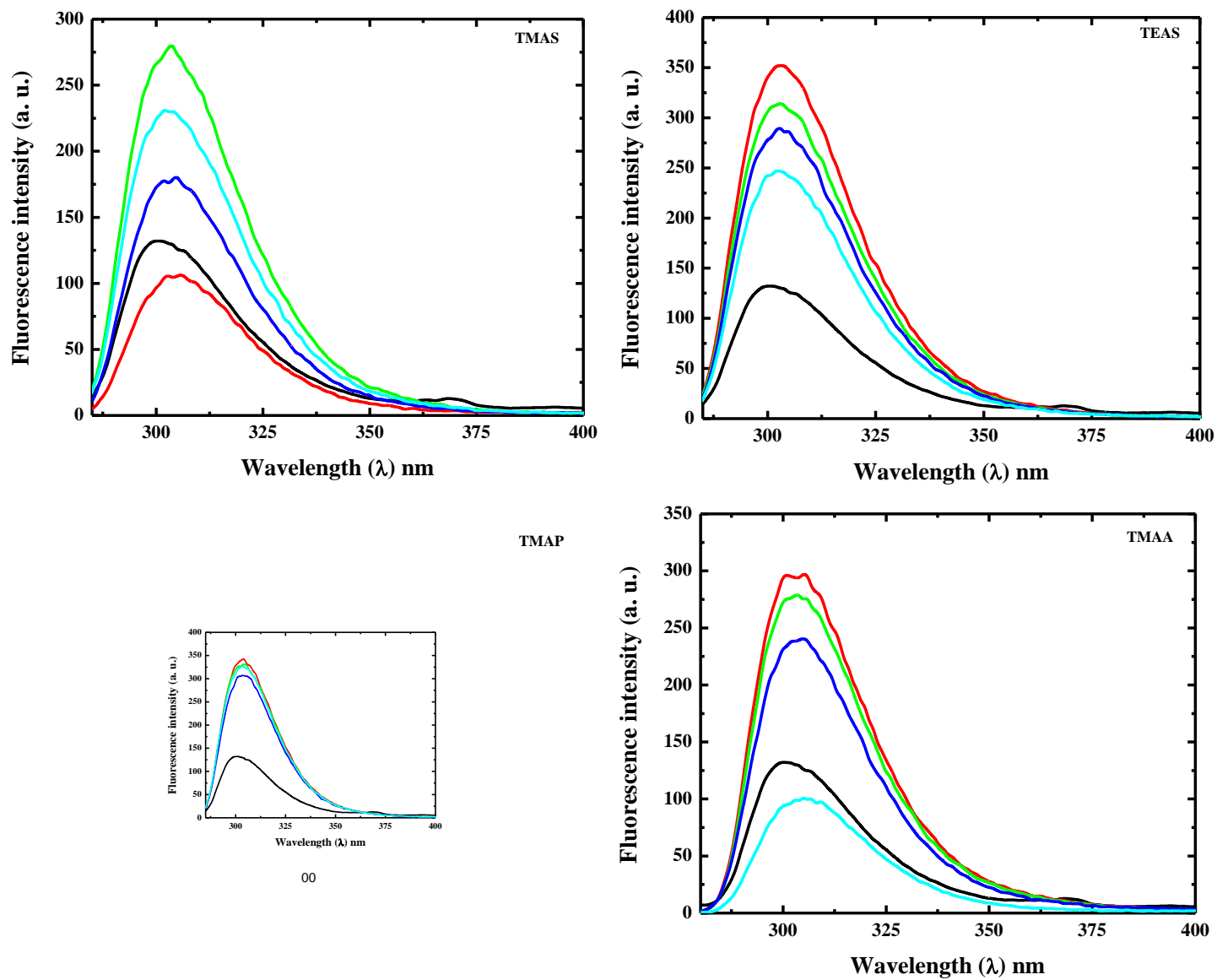


Figure IIS. Fluorescence spectroscopy of *In* in 0.0 M (black), 0.5 M (red), 1.0 M (green), 1.5 M (blue) and 2.0 M (cyan) of ILs.

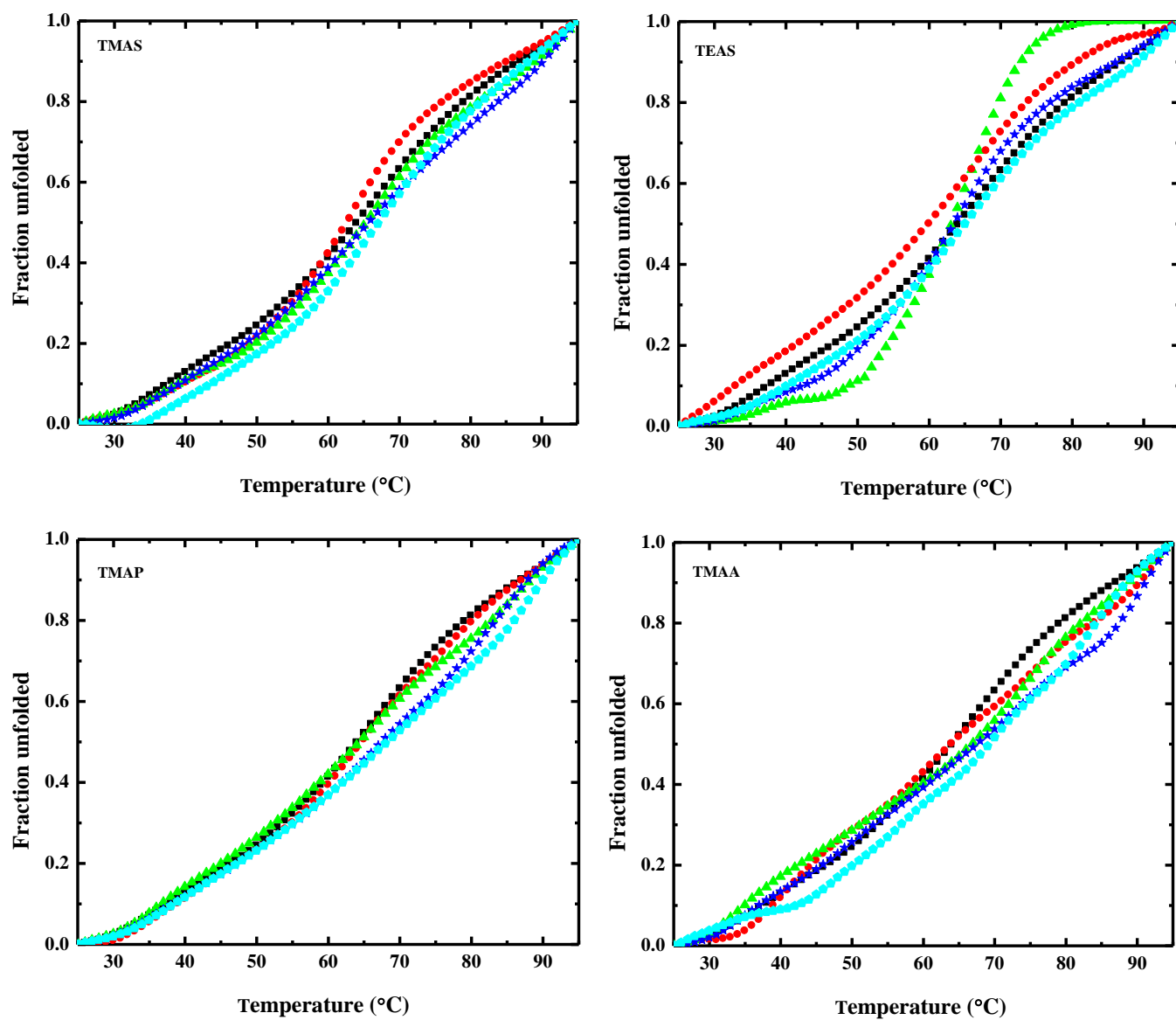


Figure IIS. Fraction unfolded of *In* in 0.0M (black), 0.5 M (red), 1.0 M (green), 1.5 M (blue) and 2.0 M (cyan) of ILs.

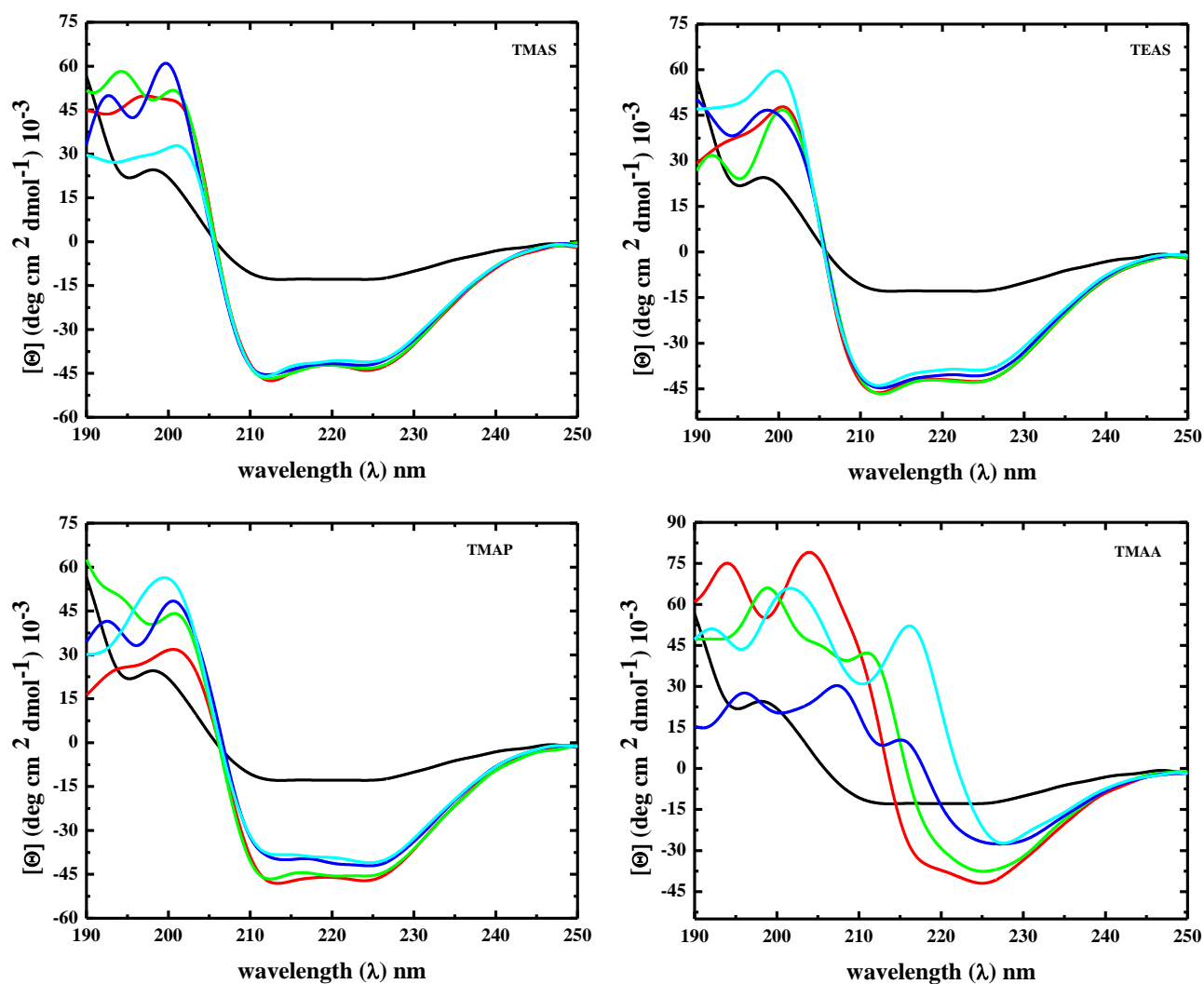
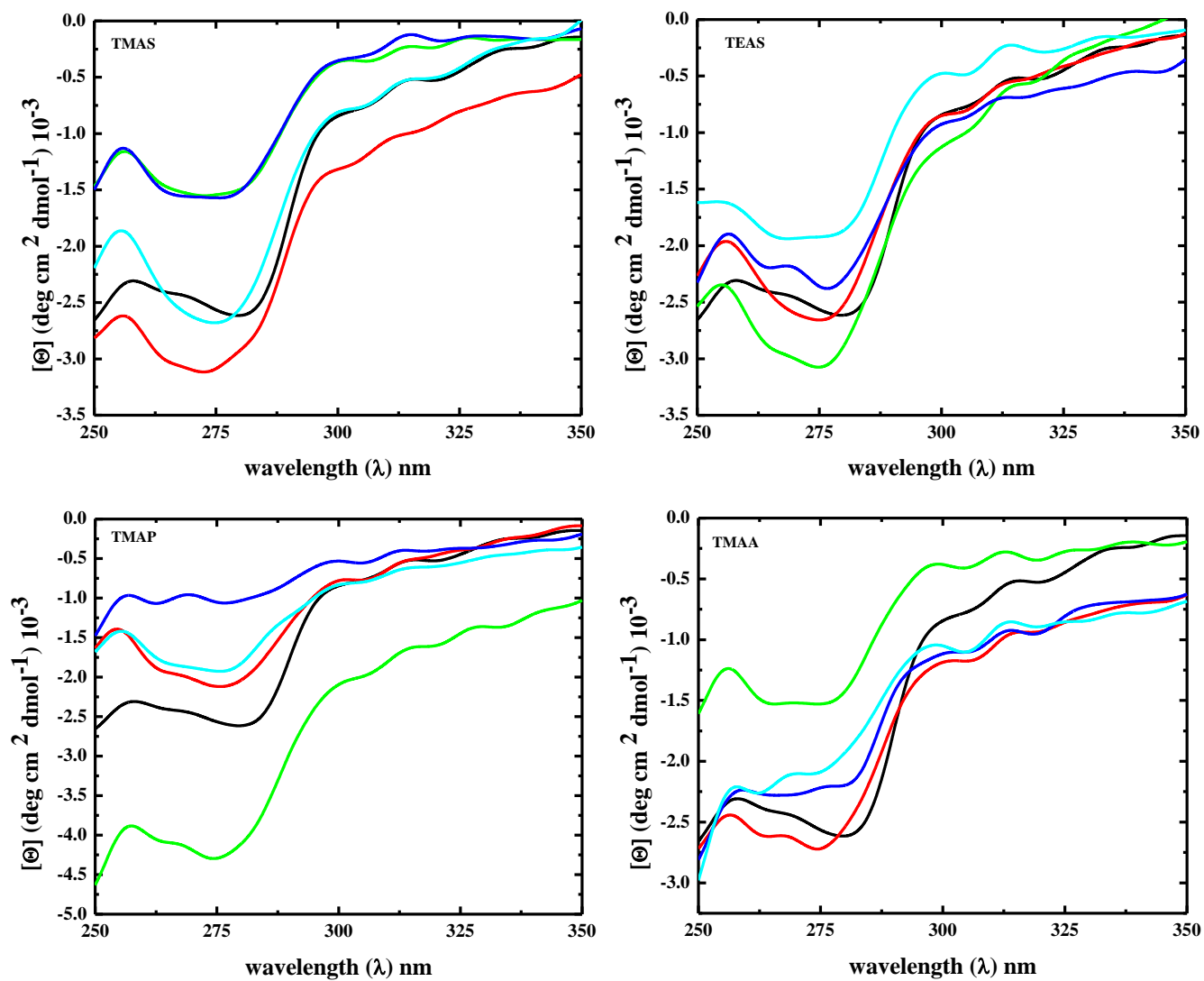


Figure IVS. Far UV-CD of *In* in 0.0 M (black), 0.5 M (red), 1.0 M (green), 1.5 M (blue) and 2.0 M (cyan) of ILs.



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Figure VS. Near UV-CD of *In* in 0.0 M (black), 0.5 M (red), 1.0 M (green), 1.5 M (blue) and 2.0 M (cyan) of ILs.

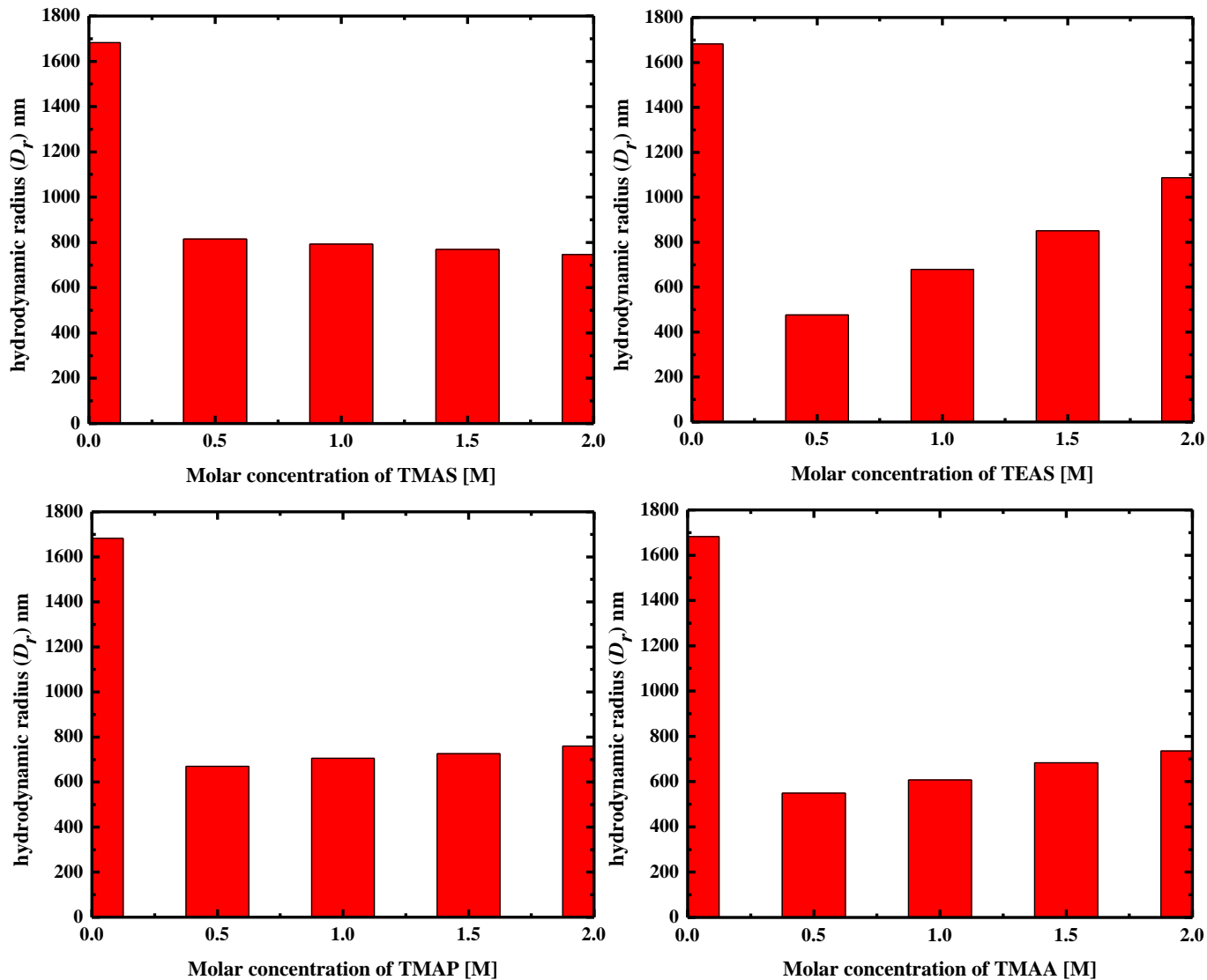


Figure VI.4. Hydrodynamic radius obtained by DLS measurements for *In* in various concentrations of PILs as a function of IL concentration.

Table IS. Thermodynamic parameters and hydrodynamic radius (D_r) calculated for *In* in the presence of various concentrations of PILs.

Concentration of ILS [M]	T_m (°C)	Free Energy of unfolding (ΔG_u) kJmol^{-1}	Enthalpy of unfolding (ΔH_u) kJmol^{-1}	Heat Capacity of unfolding (ΔC_p) $\text{kJmol}^{-1}\text{K}^{-1}$	Hydrodynamic radius (D_r) nm
0.0 M (Pure <i>In</i>)	63.9	1.944	79.381	0.235	1682.0
TMAS					
0.5 M	63.9	1.943	81.504	0.240	815.4
1.0 M	63.0	1.938	72.996	0.214	792.2
1.5 M	65.0	1.949	86.143	0.253	769.3
2.0 M	65.9	1.955	95.890	0.285	746.2
TEAS					
0.5 M	59.8	1.919	78.021	0.236	476.6
1.0 M	63.1	1.938	94.416	0.279	679.6
1.5 M	63.8	1.943	108.094	0.320	851.4
2.0 M	65.0	1.950	154.145	0.458	1087
TMAP					
0.5 M	65.0	1.950	62.881	0.183	670.2
1.0 M	64.3	1.946	68.939	0.202	705.6
1.5 M	67.9	1.969	72.414	0.214	726.2
2.0 M	69.0	1.973	87.977	0.260	759.7
TEAP					
0.5 M	63.7	1.942	142.033	0.421	728.0
1.0 M	70.1	1.979	199.295	0.574	744.8
1.5 M	73.5	1.998	239.974	0.681	767.3
2.0 M	79.3	2.032	263.998	0.769	779.9
TMAA					
0.5 M	63.9	1.943	57.468	0.168	549.0
1.0 M	66.9	1.961	68.102	0.200	607.2
1.5 M	67.9	1.966	64.706	0.191	682.9
2.0 M	69.0	1.973	81.278	0.237	735.7