

Supporting Information

Exploring the Counteracting and Refolding Ability of Choline-Based Ionic Liquids Towards Crowding Environment-Induced Changes in HSA Structure

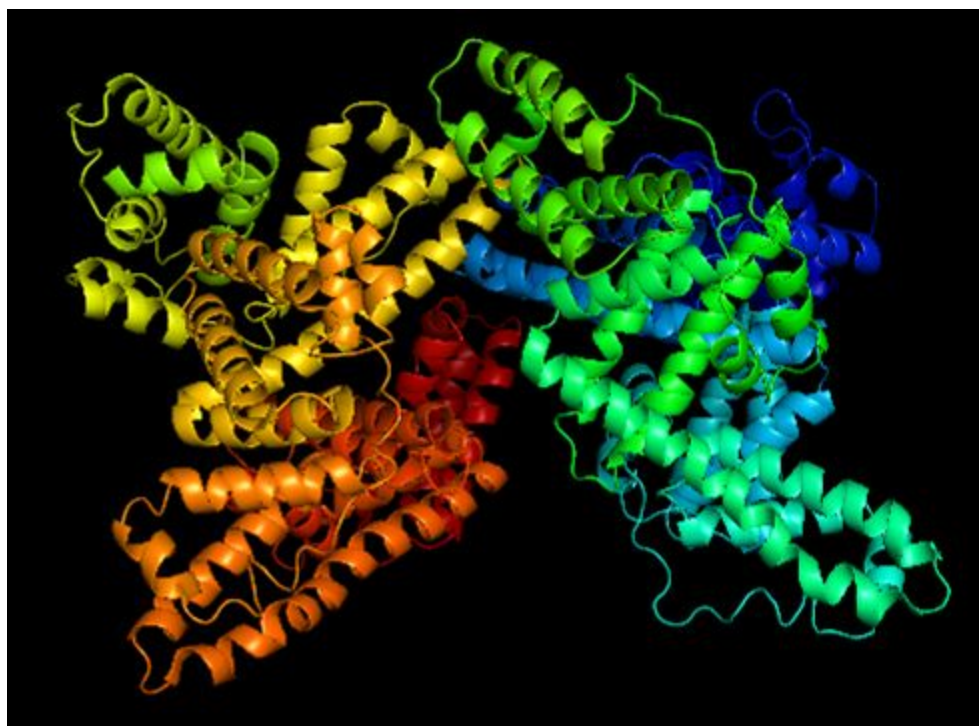
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This supporting information contains 1 scheme, 3 tables and 4 figures in 6 pages



Scheme S1. Native structure of HSA depicted as a carton diagram which was obtained from protein data bank and reconstructed in by Pymol software.

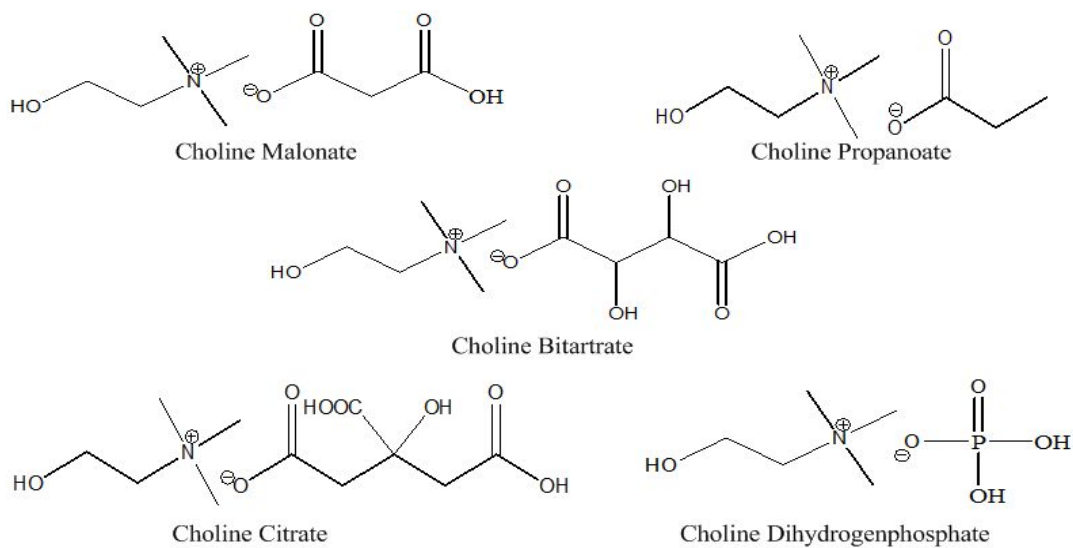


Figure S1. Chemical structure of cholinium-based ILs.

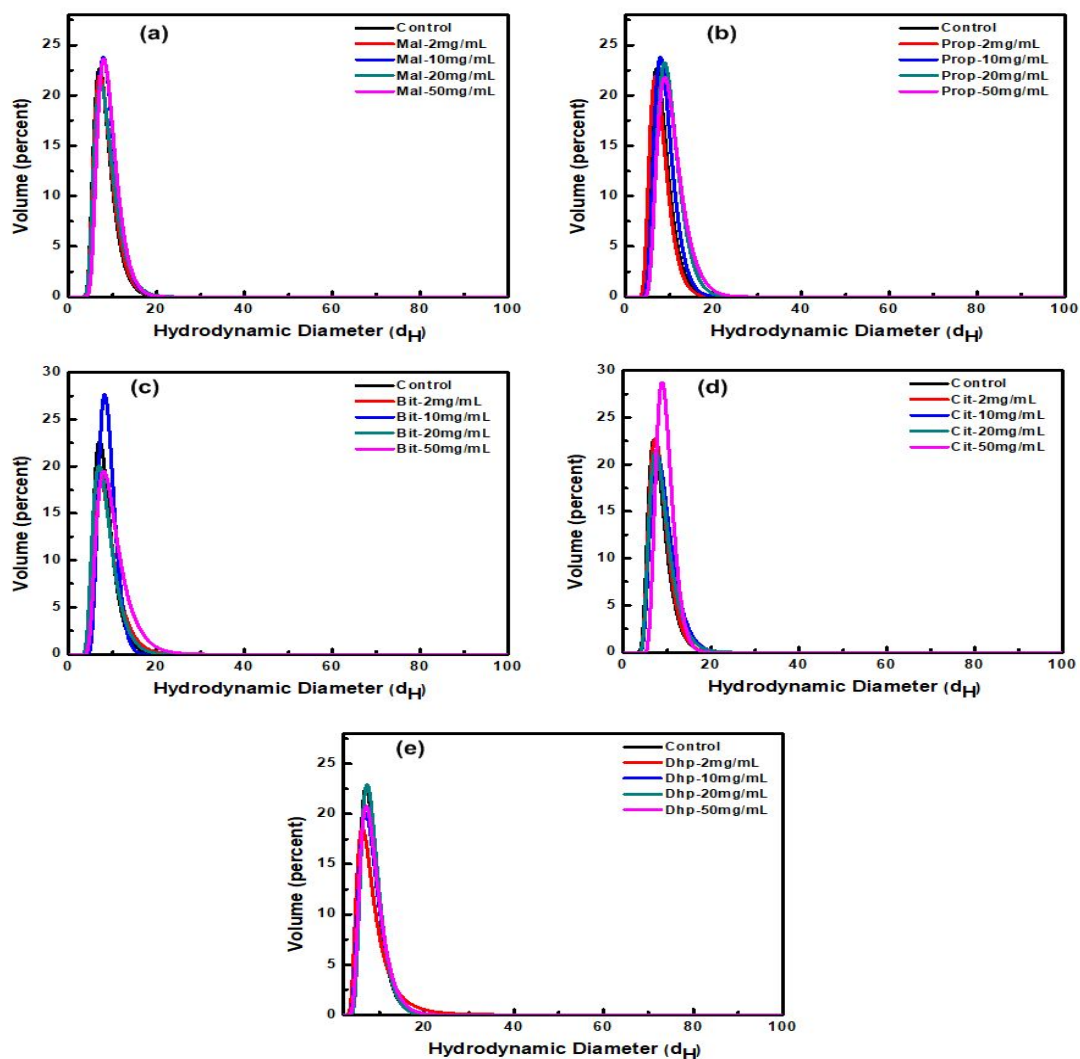


Figure S2. The hydrodynamic diameter (d_H) of HSA at 25 °C in presence of varying concentration of different ILs.

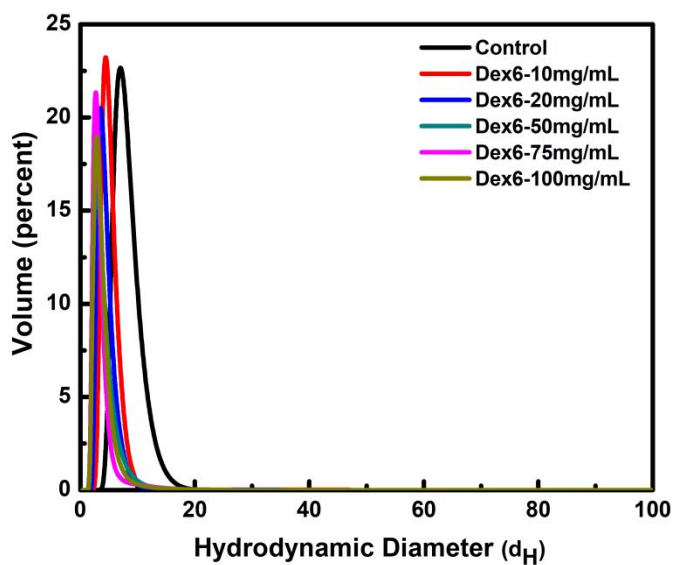


Figure S3. The hydrodynamic diameter (d_H) of HSA at 25 °C in presence of varying concentration of dex6.

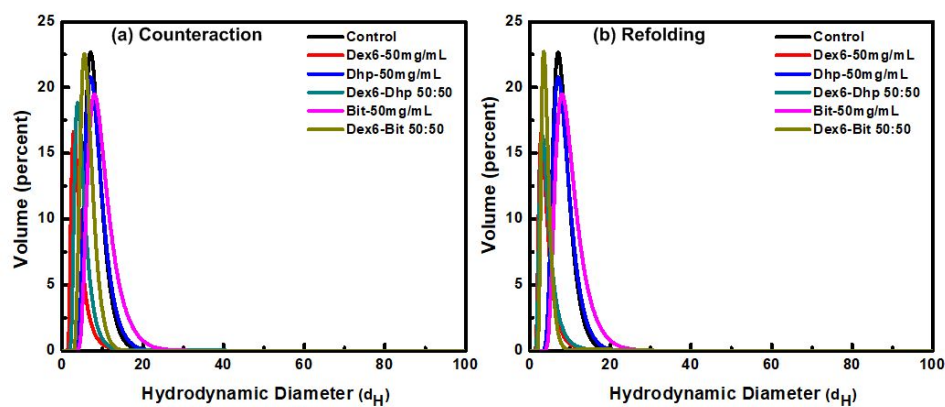


Figure S4. The hydrodynamic diameter (d_H) of HSA at 25 °C (a) counteracting (b) refolding conditions in presence dex6 and ILs (Bit and Dhp).

Table S1. The d_H values of HSA in the presence of varying concentrations of different cholinium-based ILs.

Concentration (mg/mL)	d_H values (nm)				
	Mal	Prop	Bit	Cit	Dhp
Control	7.8	7.8	7.8	7.8	7.8
2	7.8	7.3	7.8	7.6	7.4
10	8.3	8.4	8.4	8.4	7.6
20	8.0	9.4	7.7	8.2	7.8
50	8.5	9.6	8.9	9.1	7.7

Table S2. The d_H and T_m values of HSA in absence and presence of dex6 as well as IL and combination of both under counteraction conditions phosphate buffer of pH 7.

Sample	d_H (nm)	T_m (°C) *
Control	7.8	66.23
Dex6	3.5	61.26
Dhp	7.7	61.92
Dex6-Dhp	4.4	67.85
Bit	8.9	61.69
Dex6-Bit	5.9	63.57

*Error value of $T_m \pm 0.4$ °C

Table S3. The d_H and T_m values of HSA determined using DLS absence and presence of dex6 as well as IL and combination of both under refolding conditions in phosphate buffer of pH 7.

Sample	d_H (nm)	T_m (°C)
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Control	7.8	66.23
Dex6 (50 mg/mL)	3.5	61.26
Dhp (50 mg/mL)	7.7	61.92
Dex6-Dhp (50:50)	3.8	67.44
Bit (50 Mg/mL)	9.0	61.69
Dex6-Bit (50:50)	3.8	67.81

*Error value of $T_m \pm 0.4$ °C