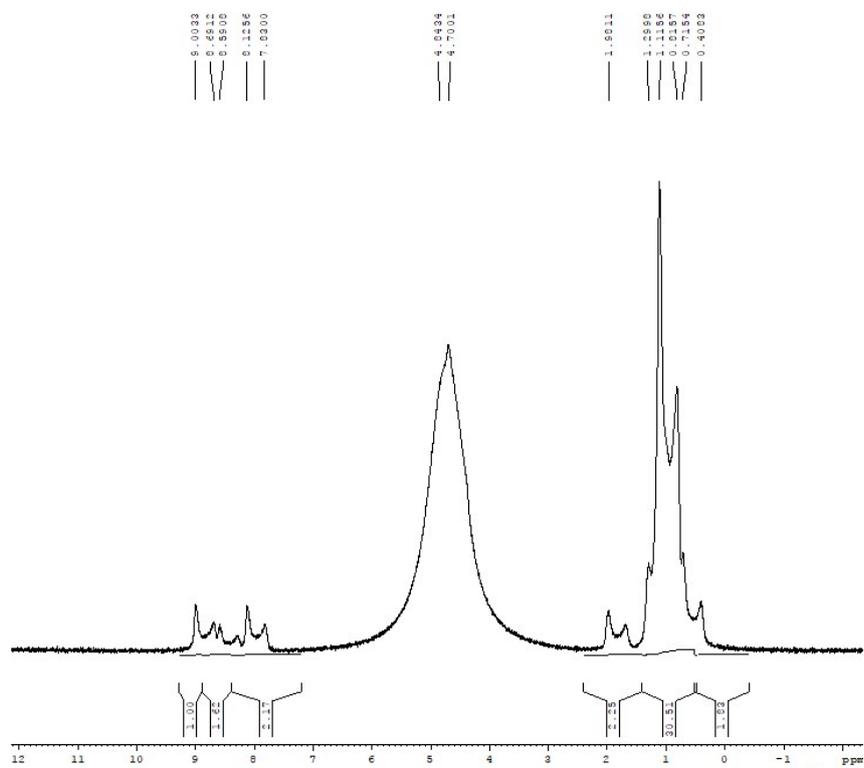
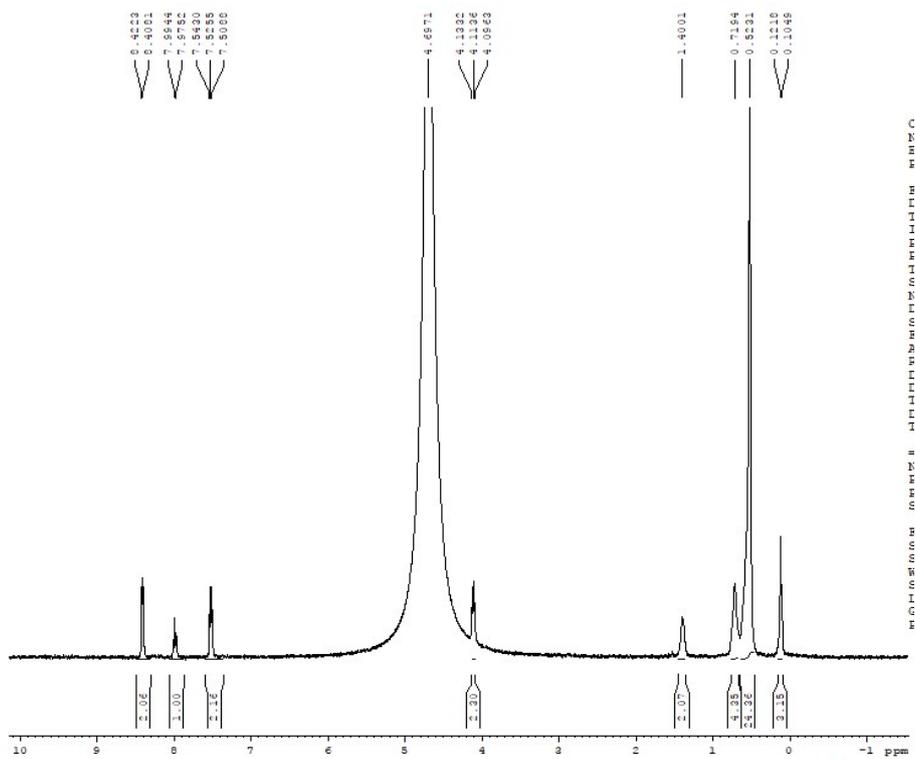


FeCPC II



CoCPC II



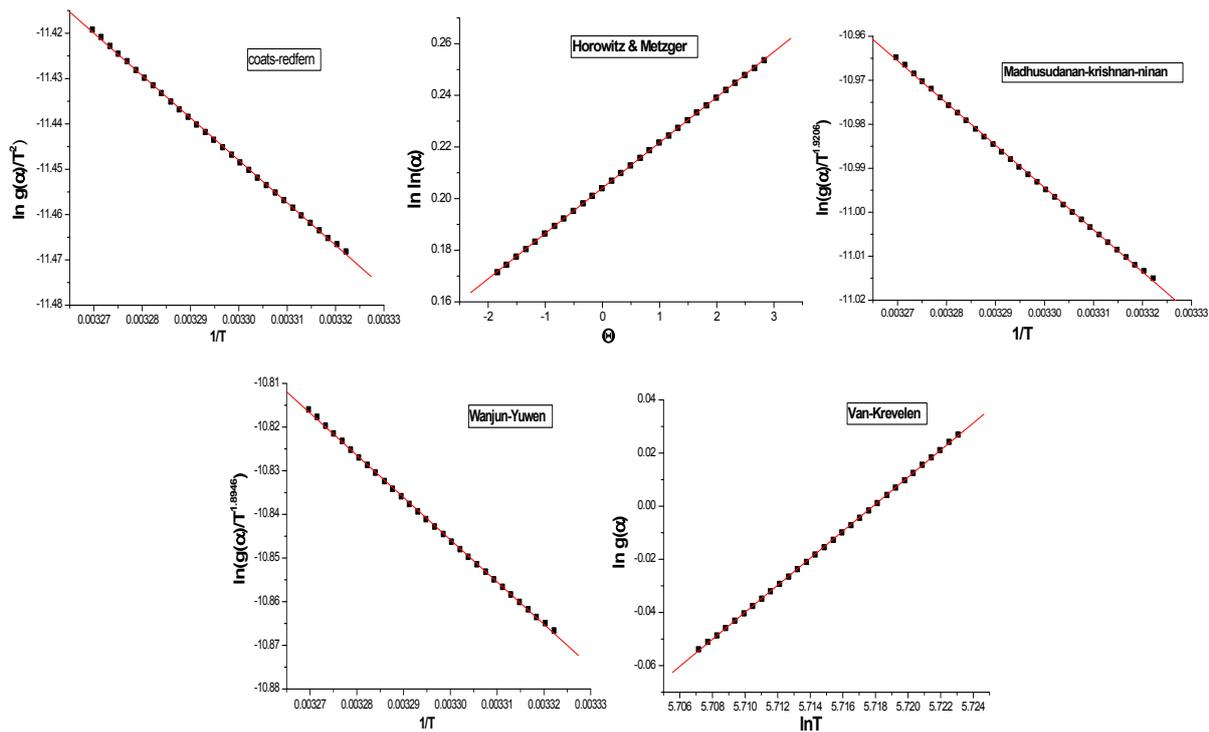


Fig.S3 Non-Isothermal methods for CoCPC II complex.

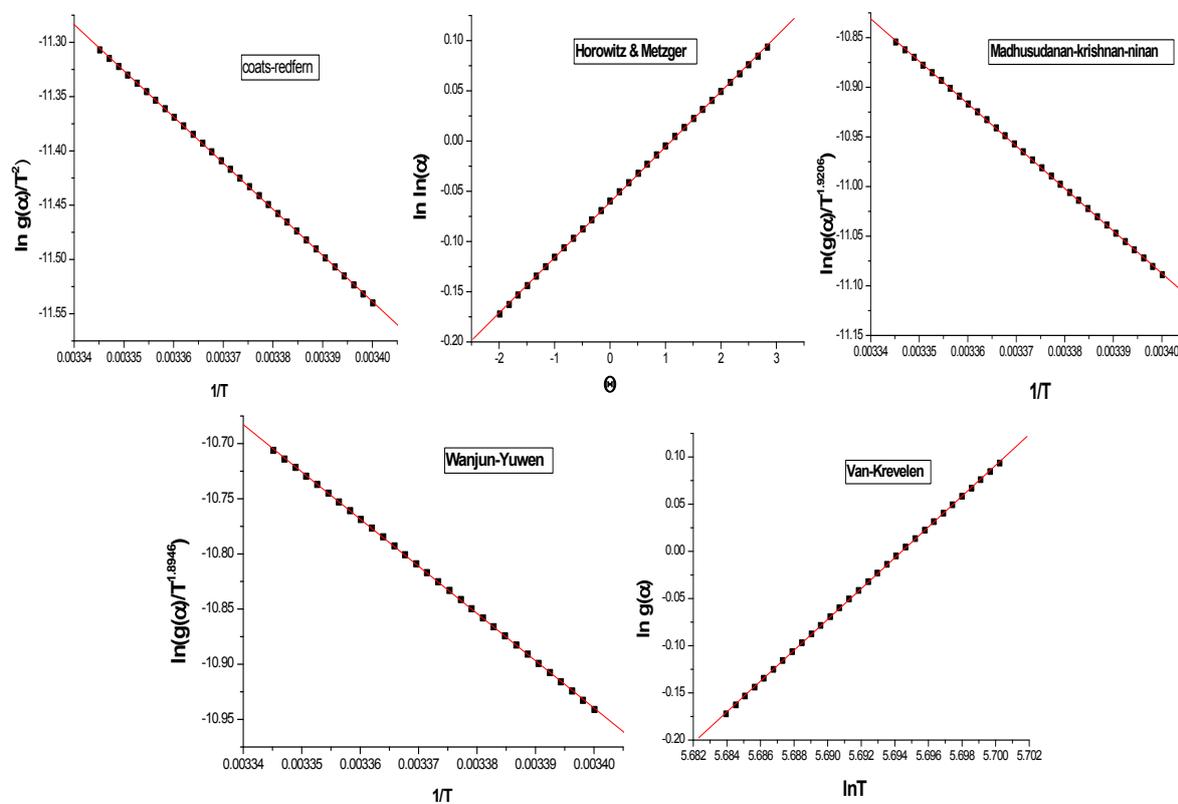


Fig.S4 Non-Isothermal methods for NiCPC II complex.

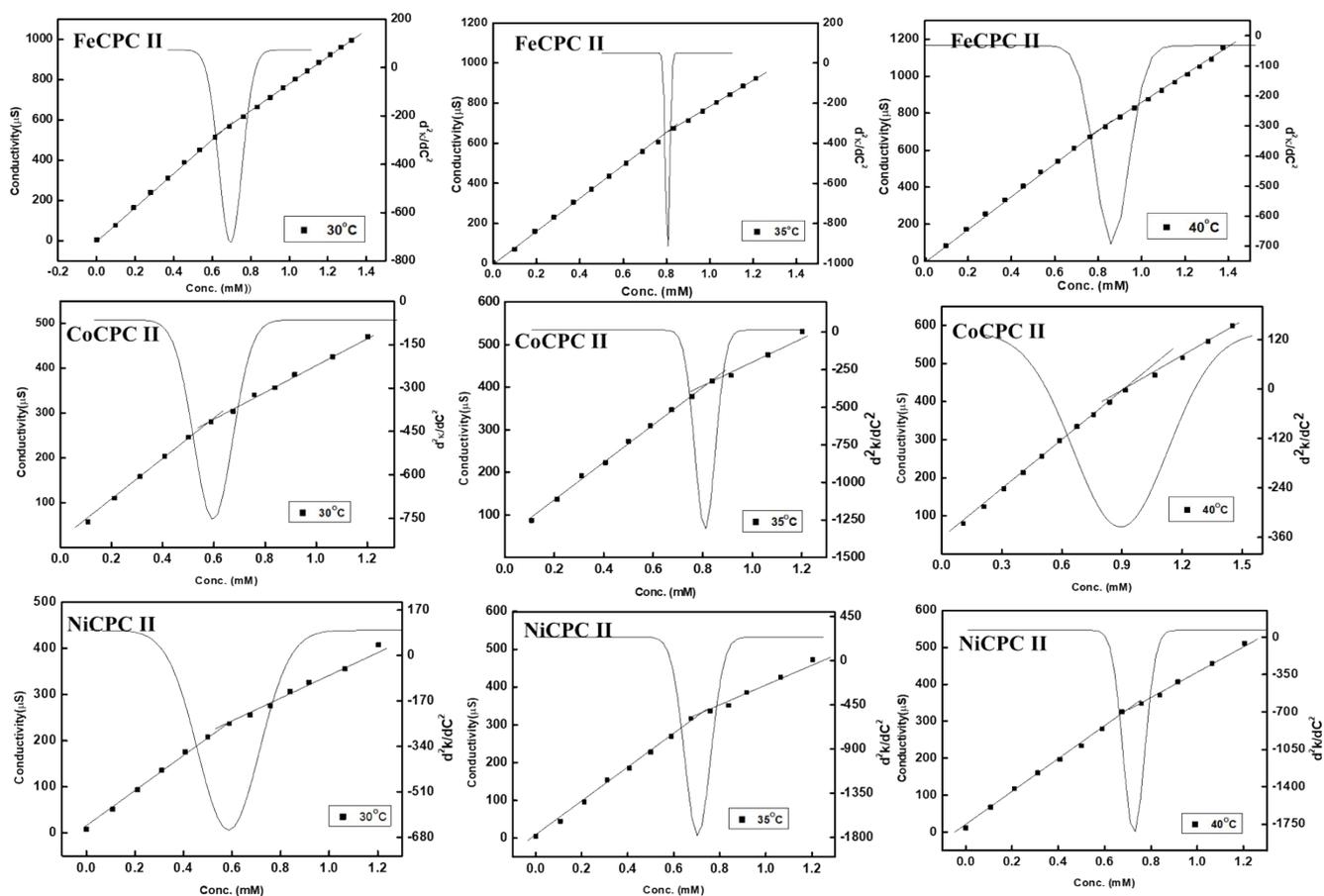


Fig. S5 Conductivity graph of metallosurfactants at different temperature.

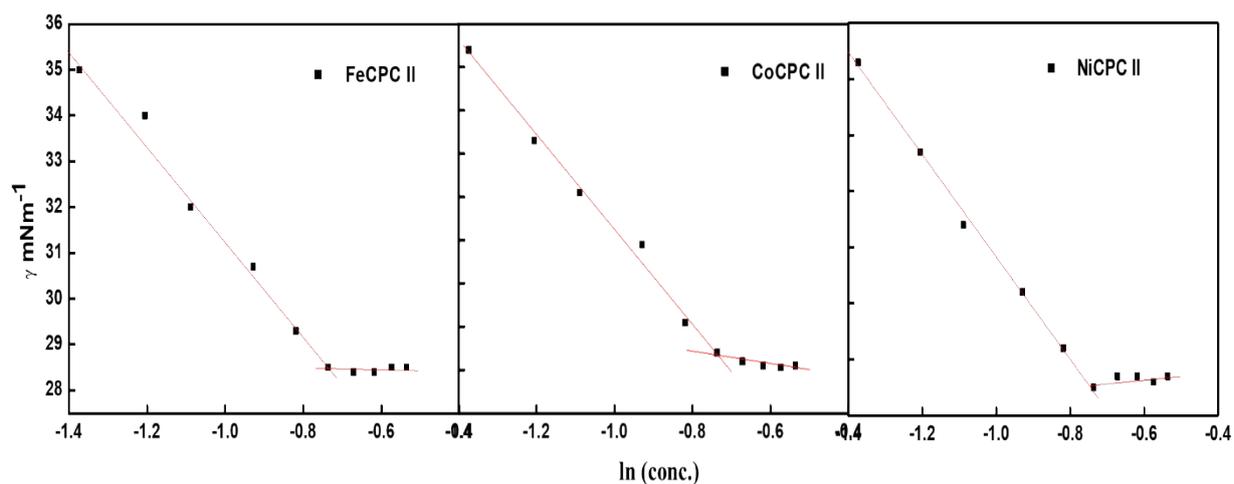


Fig. S6 Surface tension fitting graphs for all the three studied metallosurfactants

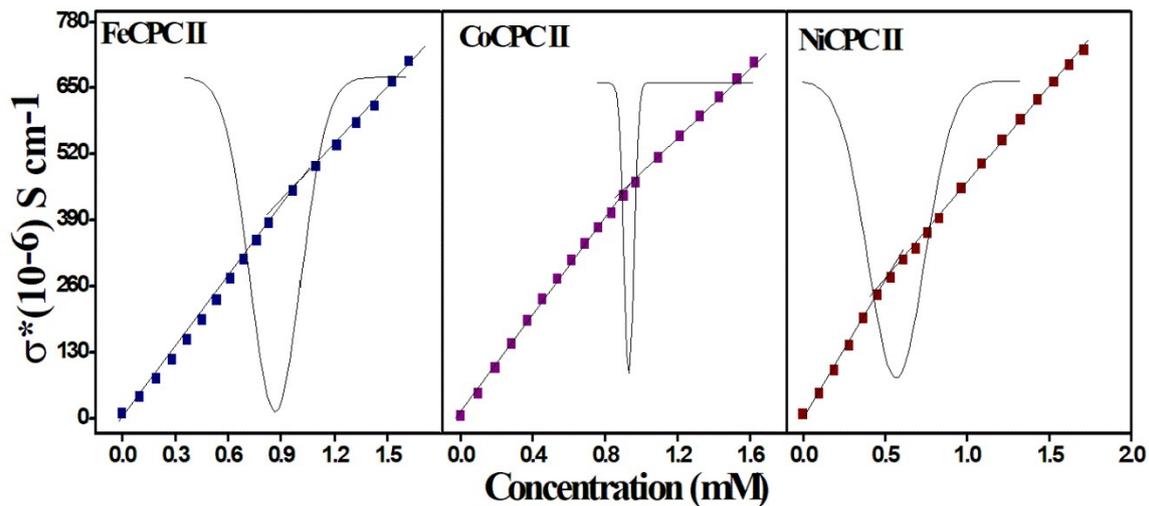


Fig. S7. Conductivity of metallosurfactants in BSA solution.

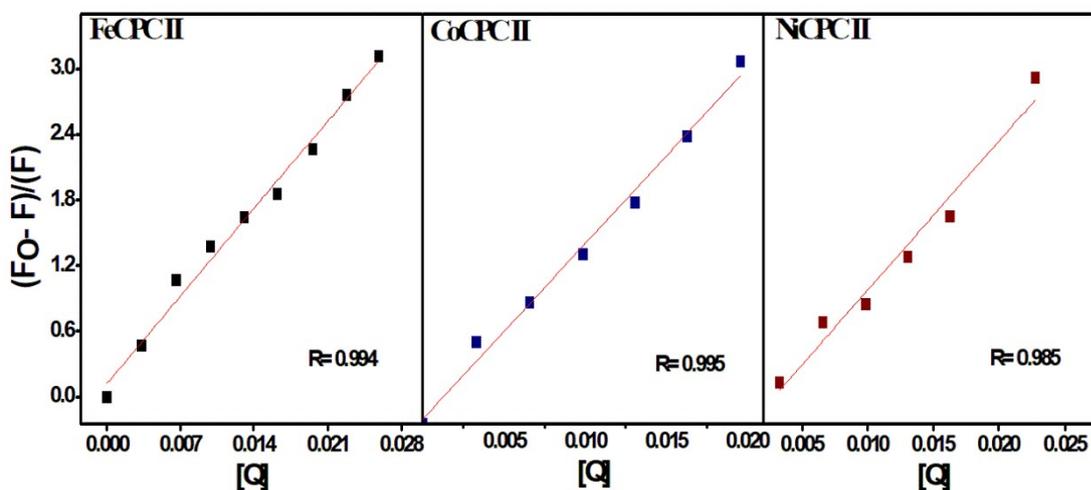


Fig. S8 Stern-volmer constant (K_{SV}) plot of BSA in presence of different metallosurfactants.

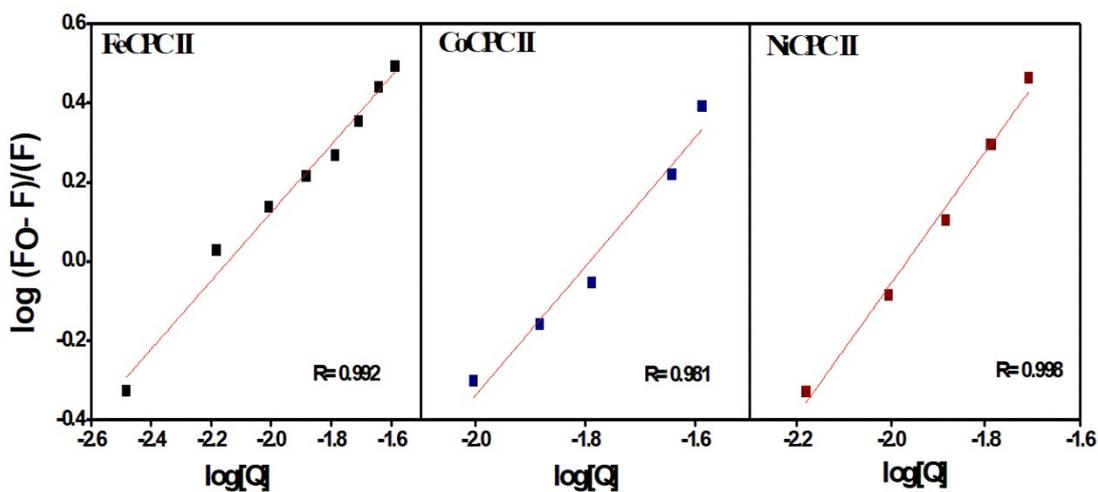


Fig. S9 Binding constant (K_a) plot of BSA in presence of different metallosurfactants.

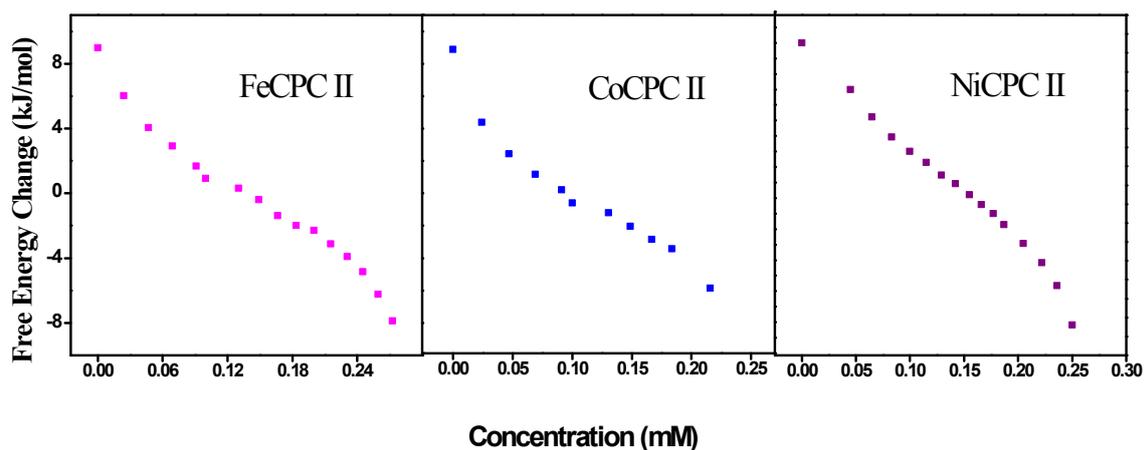


Fig. S10 Variation of free energy change (ΔG_D°) with increasing concentrations of different metallosurfactants.

Table S1 FTIR data of metal-complexes

Functional group	pure CPC (cm^{-1})	Fe-CPC II (cm^{-1})	Co-CPC II (cm^{-1})	Ni-CPC II (cm^{-1})
Aromatic C-H stretching	3047	3065	3049	3048
	3006	3007	3007	3007
	3327	3372	3373	3375
-CH ₂ - symmetric stretching	2911	2913	2913	2912
	2847	2848	2848	2848
-CH ₂ -CH ₂ - stretching	1479	1483	1483	1484
	1056	1059	1054	1054
C=N and N-C symmetric stretching	2164	2164	2164	2163
	1641	1639	1633	1635
	1180	1177	1178	1178

Table S2 $^1\text{H-NMR}$ data of metal-complexes in D_2O .

Complex	$\nu_{\text{Terminal CH}_3}$	ν_{CH_2}	$\nu_{\alpha\text{-CH}_2}$	$\nu_{\beta\text{-CH}_2}$	Aromatic protons
CPC	0.67	1.22	4.62	1.93	8.06 8.50 8.90
FeCPC II	0.40	0.81	4.84	1.98	9.00 8.69 8.12
CoCPC II	0.34	0.72	4.69	1.51	8.42 7.99 7.54
NiCPC II	0.41	0.99	4.44	1.67	8.69 8.29 7.82

Table S3 Comparison of CMC values of metallosurfactants in presence and absence of BSA at 25°C

Complex	CMC in aqueous solution	CMC in presence of BSA
FeCPC II	0.62	0.87
CoCPC II	0.58	0.93
NiCPC II	0.52	0.57

Table S4 α -helix (%) of BSA in absence and presence of different metallosurfactants at 208 and 222nm.

		Concentration	α -helix (%) (at 208 nm)	α -helix (%) (at 222 nm)
1	BSA	0.5 mg/ml	56.41	53.63
2	FeCPC II	0.2mM	48.18	44.25
		0.32mM	36.92	31.32
		0.8mM	35.23	28.42
3	CoCPC II	0.2mM	41.05	37.25
		0.32mM	37.16	31.45
		0.8mM	46.39	37.19

4	NiCPC II	0.2mM	39.44	36.76
		0.32mM	40.22	34.54
		0.8mM	41.06	33.68