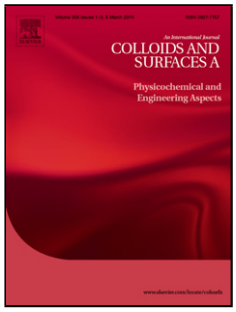

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PERFORMANCE AND MECHANISM OF DYE EXTRACTION FROM AQUEOUS SOLUTION USING SYNTHESIZED DEEP EUTECTIC SOLVENTS

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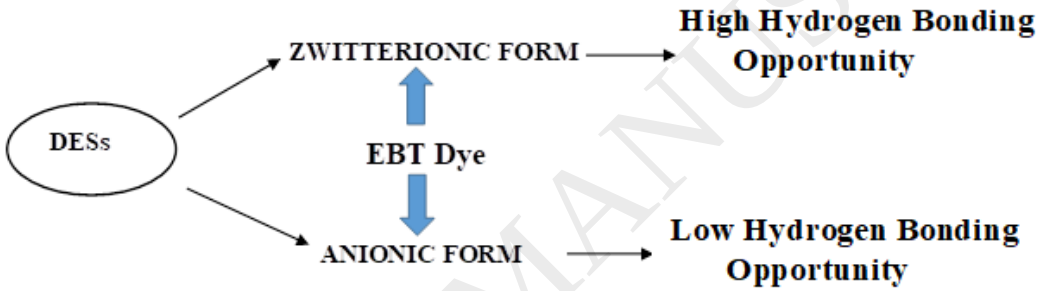
Graphical Abstract



ABSTRACT

In the present study, glycolic acid and choline chloride based deep eutectic solvents (DESs) were prepared and applied to explore its capability of Eriochrome black T (EBT) dye extraction from aqueous solution, not reported earlier, using liquid-liquid micro-extraction. The effects of pH, DESs dose and dye concentration on % Extraction efficiency were studied and reported. To explore its extraction capability, the partition coefficient were also calculated. Furthermore, molecular interaction between EBT dye and DESs were explored to understand the extraction mechanism. DESs prepared exhibited high viscosities (>200 cP) showing the presence of extensive hydrogen bond between the components of DES. High densities of DESs prepared (1.31-01.41 g cm^{-3}) (comparable to ionic liquids), indicates its suitability as solvent for the