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Solubilities and solubility products of clomipramine hydrochloride ion-associates with tetraphenylborate and silicotungstate

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Abstract The solubility and solubility product of the two ion-associates clomipraminium tetraphenylborate (CLP-TPB) and silicotungstate ((CLP)₄-ST) were determined using conductimetric and potentiometric measurements applying the standard addition method. The obtained values from both conductimetric measurements and standard addition method are close to each other. Thermodynamic parameters ΔG , ΔH and ΔS have been determined. Sodium tetraphenylborate has been used for the determination of CLP.Cl in model solution and pharmaceutical preparation by conductimetric titrations. The proposed method allowed the determination of CLP.Cl within the range of 0.17-35.15 mg. The accuracy of the method is indicated by the excellent recovery 99.95-101.23%, and the precision is supported by the low relative standard deviation 0.50-1.21%. The ruggedness and robustness of the proposed method were also studied.

KEYWORDS: Solubility; Solubility product; Clomipramine hydrochloride; Conductimetric titration; Sodium tetraphenylborate; Silicotungstic acid.

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