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Ion correlations in the electrical double layer near liquid/liquid interfaces GUILLERMO IVAN GUERRERO GARCIA, MONICA OLVERA DE LA CRUZ, Department of Chemistry and Department of Materials Science and Engineering, Northwestern University, Evanston, Illinois 60208, USA — Equilibrium properties of the electrical double layer of monovalent salts near the interface between two immiscible electrolyte solutions are studied via Monte Carlo simulations, for several electrolyte concentrations. The corresponding results are collated with experimental data and the classical Verwey-Niessen theory of point ions. The observed differences between the simulation data and the mean field approach of "back-to-back" electrical double layers stresses the importance of including properly ionic correlations near dielectric discontinuities.

Monica Olvera de la Cruz
Department of Chemistry and Department of Materials Science and Engineering, Northwestern University, Evanston, Illinois 60208, USA

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