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Charge inversion in monovalent ionic solutions¹ ALEX TRAVESSET², Iowa State University and Ames Lab, ALBERTO MARTIN-MOLINA, Universidad de Granada, CARLES CALERO, JORDI FARAUDO, Institut de Ciencia de Materials de Barcelona, MANUEL QUESADA-PEREZ, Universidad de Jaen, ROQUE HIDALGO-ALVAREZ, Universidad de Granada — We present measurements of the mobility of colloids as a function of the concentration of the monovalent salt Tetraphenyl Arsonium Chloride (TACl). The experiments show a decrease of the mobility with increasing salt concentration that flips sign (charge inversion) at mM salt concentrations. A modified version of the O'Brien and White theory taking into account the hydrophobic nature of the phenyl groups describes the experimental data without fitting parameters. Saturation effects in the mobility as well as possible generalizations are also discussed.

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