# Adsorption of neutral and ionic pharmaceuticals on the surface of activated sludge in wastewater treatment plants

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Since several kinds of pharmaceuticals, discharged from hospital and home, goes into wastewater plants (WWTPs), it is important to investigate the environmental fate of the pollutants in WWTPs. Therefore, we studied adsorptive interaction of activated sludge in WWTPs with neutral, cationic, and anionic pharmaceuticals (acetophenone, clomipramine, and diclofenac, respectively). The kinetic experiments revealed that the sorption equilibrium of three chemicals was reached within 10 minutes for the activated sludge. Since, the isotherm data was nearly linear at the low concentration range of the chemicals (1 μM – 10 μM), the adsorption affinities were determined by linear regression. The adsorption affinity of clomipramine was highest of the tested chemicals.