

Impact of Activated Sludge Flocs Properties after Sonication in Relation with Heavy Metal Uptake –
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Summary

The effects of activated sludge sonication on flocs surface properties and heavy metal uptake was investigated. Negative surface charge and specific surface area were estimated by correlation with dye adsorption whereas relative hydrophobicity was measured by adhesion to hexadecane. Experimental results show that ultrasound treatment leads to a simultaneous increase of specific surface area and availability of negatives and/or hydrophilic sites. Thus, fixation sites for heavy metal uptake are made free by sonication. Both increase of specific surface area and fixation sites availability leads to an increase of uptake of Cd(II). For Cu(II), organic matter released in soluble phase during the treatment acts as a ligand and limits adsorption on flocs surface.