Characterizations and Cr (VI) adsorption properties of polyaniline/filter-paper composite - DTU Orbit (18/01/2019)

Characterizations and Cr (VI) adsorption properties of polyaniline/filter-paper composite

Polyaniline/filter-paper (PANI/FP) composite was prepared by in situ polymerization of polyaniline onto FP and subsequently evaluated for the removal of Cr (VI) from aqueous solution. Scanning electron microscopy and Fourier-transform infrared were used to investigate the morphology and physicochemical property of PANI/FP composite. Batch experimental results showed that pH value and temperature could affect the removal capability of PANI/FP composite. Langmuir and Freundlich models were used to analysis the equilibrium adsorption, and both of the two models showed the similar correlation coefficients (about $R^2 = 0.9383$). Although the removal capability was still limited, the PANI/FP composite showed the great potential that can be used as an effective adsorbent for removing Cr (VI) from industrial waste-water. POLYM. COMPOS., 35:993-998, 2014. (c) 2013 Society of Plastics Engineers

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