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STUDY OF THE SYNTHESIS AND ENVIRONMENTAL REMOVAL OF 4,4'-DIPYRIDINE DERIVATIVES

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Abstract

Dipyridine derivatives are used on large scale and pose significant environmental problems. We have synthesized dipyridine derivatives with: 5-chlorovaleric acid, α-dichlorhidrin, iodoacetamide and 11-bromoundecanoic acid. The synthesized substituted compounds were investigated by LC-MS. The adsorptive removal of dipyridine derivatives from aqueous solution has been studied using medicinal activated carbon. The adsorption rate has been investigated under the controlled process parameters including adsorption time, carbon and organic compound concentration. The results from this study demonstrated that the activated carbon can be used as a low-cost adsorbent for the removal of environmental cationic dipyridine derivatives from the water environment.

Key words: 4,4'-dipyridine derivatives synthesis, activated carbon adsorption, LC-MS analysis

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