UV-Driven Formation of Co$_3$O$_4$: The Role of pH

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We have demonstrated the formation of Co$_3$O$_4$ in poly(ethyleneimine) (PEI) using UV light. This method produced monodispersed rod-like spinels. Here, the importance of pH as it relates to the metal on uptake and UV driven formation of the Co$_3$O$_4$ in Poly(methylamido amine) (PMAAM) dendrimers is being investigated. At pH 10.0 Co$_3$O$_4$ spinels are observed, while at pH 3.9 the precursor salt is present. We suggest that the degree of protonation dictates the product formed during irradiation.