

Synthesis and Analysis of Inorganic Polymers of Ce (IV)–P Compounds.

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Abstract: All of $\text{Ce(IV)}-\text{P}^{(1)}$ compounds can be used as ion exchange. The solubility of these compounds in inorganic acids are very low and they can not be formed anionic complexes and can give amorph and crystalize phases under different conditions in which the phosphate groups was substituted with sulphate groups. The crystal and amorph form of inorganic polymers of $\text{Ce(IV)}-\text{P}$ can be prepare from the reaction of orttophosphoric acid in the presenc of $\text{Ce(IV)}-\text{S}^{(2)}$ in H_2SO_4 at $80-100^\circ\text{C}$ with stirring about 4h. The crystal form of $\text{Ce(IV)}-\text{P}$ have fibrinous structure and very similar with celeluse paper. The XRD elemental analysis, IR and FTIR and microscopic pictures of polymer under diffrent condition of preparations, and one of its use as chromatographic separation of inorganic cations was also studied.