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## 制备近似球形AUC结晶的初步研究

@康仕芳\$天津大学化工学院!天津300072 @陈松\$天津大学化工学院!天津300072 @赵君\$天津大学化工学院!天津300072

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**摘要** 研究了沉淀剂组成、搅拌速度、溶液的过饱和度等因素对AUC沉淀结晶的影响。结果表明 : $c(\text{CO}_2-3)/c(\text{U}) > 3$ 、 $c(\text{NH}_4)/c(\text{U}) > 6$ 时可得到符合  $(\text{NH}_4)_4\text{UO}_2(\text{CO}_3)_3$ 化学计量的化合物。溶液中沉淀结晶物质的过饱和度对AUC沉淀结晶的粒度、形貌有重要影响。过饱和度较低时 ,形成的结晶为长径比较大的棱柱形结晶 ,流动性较差 ;饱和度较高时 ,造成晶核严重泛滥 ,从而改变了晶体的生长习性 ,晶体呈同向生长 ,可形成球形度较好的AUC沉淀结晶

关键词 [AUC](#) [沉淀](#) [结晶](#) [二氧化铀](#)

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## Preliminary Study on Preparation Method of Spherical AUC Crystal

KANG Shi -fang, CHEN Song, ZHAO Jun\_\_(Chemical Engineering Department, Tianjin University, Tianjin 300072, China)\_\_\_

**Abstract** The influences of the composition of precipitant, stirring rate and supersaturation level on AUC crystal are studied. It is found that AUC crystal with a stoichiometrical compound presented by formula  $(\text{NH}_4)_4\text{UO}_2(\text{CO}_3)_3$  can be obtained in the case of  $n(\text{CO}_2-3)/n(\text{U}) > 3$  and  $n(\text{NH}_4)/n(\text{U}) > 6$ . The supersaturation level of precipitant influence greatly on the size and shape of AUC crystal. When the supersaturation level of precipitant is lower, the size of AUC crystal is larger and the ratio between length and diameter of AUC crystal is larger and the fluidity of AUC crystal is worse. When the supersaturation level of precipitant is higher, since AUC crystal habit is changed and AUC crystal grow in all direction, the AUC crystal can be sphericized. \_

**Key words** [AUC](#) [precipitation](#) [crystal](#) [UO<sub>2</sub>](#)

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