

SEPARATION SCIENCE & ENGINEERING

溶剂与杂质对11 α -羟基-16 α ,17 α -环氧黄体酮晶习的影响

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摘要 The effects of solvent and impurity on the crystal habit of 11 α -hydroxy-16 α , 17 α -epoxyprogesterone (HEP) grown from solution were studied by scanning electron microscope. Long prismatic crystals were produced when HEP was crystallized from pure acetone and N,N-dimethylformamide, while blocky crystals were produced from pure chloroform by cooling crystallization. One kind of isomorphous impurity, 16 α ,17 α -epoxyprogesterone (EP) was selected to examine its effect on the HEP crystal habit. When the content of EP in the mother liquor is very high (55.45%, solvent free basis), the habit of produced HEP crystals was greatly modified from prismatic to octahedral. The differential scanning calorimetry and X-ray powder diffraction analyses showed that the change of crystal habit was originated from the crystal structure modification.

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Effects of solvent and impurity on crystal habit modification of 11 α -hydroxy-16 α ,17 α -epoxyprogesterone

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Abstract The effects of solvent and impurity on the crystal habit of 11 α -hydroxy-16 α , 17 α -epoxyprogesterone (HEP) grown from solution were studied by scanning electron microscope. Long prismatic crystals were produced when HEP was crystallized from pure acetone and N,N-dimethylformamide, while blocky crystals were produced from pure chloroform by cooling crystallization. One kind of isomorphous impurity, 16 α ,17 α -epoxyprogesterone (EP) was selected to examine its effect on the HEP crystal habit. When the content of EP in the mother liquor is very high (55.45%, solvent free basis), the habit of produced HEP crystals was greatly modified from prismatic to octahedral. The differential scanning calorimetry and X-ray powder diffraction analyses showed that the change of crystal habit was originated from the crystal structure modification.

Key words [crystal habit](#); [crystal structure](#); [crystal growth](#); [11 \$\alpha\$ -hydroxy-16 \$\alpha\$:17 \$\alpha\$ -epoxyprogesterone](#)

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