

研究论文

## 溶剂热法直接合成酞菁铜晶体

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**摘要** 以喹啉为溶剂, 在反应釜中将1,3-二异吡啶、钼酸铵和二水乙酸铜在喹啉中反应, 降至室温后得到长10.5 mm针状的酞菁铜单晶, 最佳的反应条件: 以10 mL喹啉为溶剂, 于270 °C反应8 h, 产率为51.3%。

**关键词** [溶剂热合成](#) [酞菁铜](#) [单晶](#) [喹啉](#)

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## Directly Solvothermal Synthesis of Copper Phthalocyanine Crystals

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**Abstract** A novel method for directly synthesizing  $\beta$ -form crystals of copper phthalocyanine(CuPc) was pre-sented in this article. With quinoline as a solvent, crystals were grown after cooling the reaction mixture to room temperature in an autoclave which contains 1,3-diiminoisoindoline,  $\text{NH}_4\text{MoO}_4$  and  $\text{Cu}(\text{AcO})_2 \cdot 2\text{H}_2\text{O}$  in quinoline solvent. These high quality crystals were suitable for characterization measurements. Needle-like single crystals of CuPc with a size up to 10.5 mm in length were obtained. The influences of different temperatures and times on the crystal yields were also discussed. The optimum reaction condition of the crystal growth was as follows: reaction temperature was 270 °C, the reaction time was 8 h, and the reaction solvent volume was 10 mL, and the highest crystal yield was 51.3%. This method is called solvothermal synthesis method. Moreover, this method may be easily applied in the crystal growth for other organic functional raw materials, and acts as an important part both in scientific experiments and industrial productions.

**Key words** [Solvothermal synthesis](#) [CuPc](#) [Single crystal](#) [Quinoline](#)

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