

REACTION KINETICS, CATALYSIS AND.....

光引发长链正构烷烃多氯代反应机理与动力学  
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**摘要** Based on the mechanism analysis of the polychlorination of long chain n-alkanes by photo-initiation, a kinetic model was developed. The model parameters were obtained by the method of non-linear fitting. The influences of luminous intensity and concentration of molecular chlorine on the rate of polychlorination are demonstrated by the model. If the luminous intensity is adequate, the polychlorination rate of n-alkane is only controlled by the flow rate of molecular chlorine in a wide range of temperature, and the changes of temperature and luminous intensity have less effect on the reaction rate. In addition, the predictions of chlorine content of polychlorinated n-alkane calculated with the model agree very well with experimental results.

**关键词** 氯代反应, 光引发, 正构烷烃, 机理

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**Mechanism and Kinetics of Polychlorination of Long Chain n-Alkanes by Photo-Initiation**

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**Abstract** Based on the mechanism analysis of the polychlorination of long chain n-alkanes by photo-initiation, a kinetic model was developed. The model parameters were obtained by the method of non-linear fitting. The influences of luminous intensity and concentration of molecular chlorine on the rate of polychlorination are demonstrated by the model. If the luminous intensity is adequate, the polychlorination rate of n-alkane is only controlled by the flow rate of molecular chlorine in a wide range of temperature, and the changes of temperature and luminous intensity have less effect on the reaction rate. In addition, the predictions of chlorine content of polychlorinated n-alkane calculated with the model agree very well with experimental results.

**Key words** [polychlorination](#); [polychlorination](#); [photo-initiation](#); [chlorination](#); [long chain n-alkanes](#); [mechanism](#); [kinetics](#).

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