

研究论文

## 铬酸钴催化剂上苯酚和甲醇气相邻位烷基化反应

王艳力<sup>1,2</sup>, 刘钢<sup>1</sup>, 贾明君<sup>1</sup>, 朱小梅<sup>1</sup>, 邹秀晶<sup>1</sup>, 张文祥<sup>1</sup>, 蒋大振<sup>1</sup>

1. 吉林大学化学学院, 长春 130021;
2. 哈尔滨工程大学材料科学与化学工程学院, 哈尔滨 150001

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**摘要** 研究了具有尖晶石结构的铬酸钴及负载钾的铬酸钴催化剂上苯酚和甲醇气相邻位烷基化反应. 结果表明, 相对较高的反应温度有利于提高催化剂的反应活性和2,6-二甲酚的选择性; 随着质量空速的降低, 苯酚的转化率和2,6-二甲酚的选择性逐渐增加, 邻甲酚的选择性逐渐降低, 这表明2,6-二甲酚是邻甲酚进行连续反应的结果. 另外, 钾的引入能明显提高邻甲酚的选择性, 降低苯酚的转化率和2,6-二甲酚的选择性, 原因可能主要是由于负载钾后铬酸钴催化剂上的较强的酸中心数目明显减少所致.

**关键词** [苯酚](#) [甲醇](#) [铬酸钴](#) [尖晶石](#) [邻位烷基化](#)

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## Vapour Phase *ortho*-Selective Alkylation of Phenol with Methanol over Cobalt Chromite Catalyst

WANG Yan-Li<sup>1,2</sup>, LIU Gang<sup>1</sup>, JIA Ming-Jun<sup>1</sup>, ZHU Xiao-Mei<sup>1</sup>, ZOU Xiu-Jing<sup>1</sup>, ZHANG Wen-Xiang<sup>1</sup>, JIANG Da-Zhen<sup>1</sup>

1. College of Chemistry, Jilin University, Changchun 130021, China;
2. Colledge of Material Science and Chemical Engineering, Harbin Engineering University, Harbin 150001, China

**Abstract** The vapour phase *ortho*-selective alkylation of phenol with methanol was investigated over spinel-type cobalt chromite catalyst with K as the supported catalyst. The result shows that the relatively high reaction temperature is benefit to the improvement of the catalytic activities and the selectivity of 2,6-xyleneol. With the decrease of weight hourly space velocity(WHSV), both the phenol conversion and the selectivity of 2,6-xyleneol increase, while the selectivity of *o*-cresol decreases gradually, suggesting that 2,6-xyleneol is the consecutive product obtained from the alkylation of *o*-cresol. Introducing a small amount of K species could result in the decrease of the phenol conversion and the selectivity to 2,6-xyleneol, but considerable increase of the selectivity to *o*-cresol. The main reason should be due to the decrease of the relatively strong acidic sites on the K supported catalysts.

**Key words** [Phenol](#) [Methanol](#) [Cobalt chromite](#) [Spinel](#) [ortho-Selective alkylation](#)

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通讯作者 张文祥 [zhwenx@jlu.edu.cn](mailto:zhwenx@jlu.edu.cn)

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