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$[\text{Cp}_2\text{Ln}(\mu\text{-}\eta^1\text{:}\eta^2\text{-OC}(\text{SR})=\text{CPh}_2)]_2$ 的合成和表征

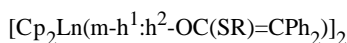
张春梅^{a,b}, 刘瑞婷¹, 陈珍霞¹, 周锡庚^{*,a}

^a复旦大学化学系, 上海, 200433

^b华东理工大学化学系, 上海, 200237

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摘要 二茂稀土炔硫基 $[\text{Cp}_2\text{Ln}(\mu\text{-SR})_2]$ 与二苯基烯酮 ($\text{Ph}_2\text{C}=\text{C}=\text{O}$) 在室温下反应, 高选择性生成烯酮单插入稀土-硫键产物



[R = Bn, Ln = Yb (1), Er(2), Y(3)及R = Ph, Ln = Yb (4)]. 研究结果显示, 改变配体炔硫基性质和增加烯酮的计量对反应没有影响, 该反应为含 α -炔硫基取代烯醇配体的稀土金属有机化合物的合成提供了一种有效的方法。化合物1-4均经过元素分析和光谱表征, 其中化合物1的结构还得到X-射线单晶衍射分析证明。

关键词 [稀土金属有机化合物, 插入反应, 烯酮, 结构, 环戊二烯基](#)

分类号

Synthesis and Characterization of $[\text{Cp}_2\text{Ln}(\mu\text{-}\eta^1\text{:}\eta^2\text{-OC}(\text{SR})=\text{CPh}_2)]_2$ (R = Bn, Ph and Ln = Yb, Er, Y)

ZHANG Chun-Mei^{1,2}, LIU Rui-Ting¹, CHEN Zhen-Xia¹, ZHOU Xi-Geng^{*,1}

¹ Department of Chemistry, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, Fudan University, Shanghai 200433, China

² Department of Chemistry, East China University of Science and Technology, Shanghai 200237, China

Abstract $[\text{Cp}_2\text{Ln}(\mu\text{-SR})_2]$ was reacted with $\text{Ph}_2\text{C}=\text{C}=\text{O}$ to yield ketene mono-insertion products $[\text{Cp}_2\text{Ln}(\mu\text{-}\eta^1\text{:}\eta^2\text{-OC}(\text{SR})=\text{CPh}_2)]_2$ [R = Bn, Ln = Yb (1), Er (2), Y (3) and R = Ph, Ln = Yb (4)], indicating that the reactions of organolanthanide thiolates with ketenes are independent of the nature of the thiolate ligand and the ketene as well as the reaction condition. These reactions could provide an efficient method for the synthesis of organolanthanide complexes with the α -thiolate-substituted enolate ligand. All these complexes were characterized by elemental analysis and spectroscopic properties and the structure of complex 1 was determined through X-ray single crystal diffraction analysis.

Key words [organolanthanide](#) [insertion](#) [ketene](#) [structure](#) [cyclopentadienyl](#)

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通讯作者 周锡庚 xgzhou@fudan.edu.cn

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