

FULL PAPERS

二(胍基)锆配合物的合成和表征

庞兴安¹, 姚英明¹, 王俊峰¹, 盛鸿婷¹, 张勇¹, 沈琪^{a, b, *}

¹苏州大学化学化工学院, 苏州 215006

²金属有机化学国家重点实验室, 中科院上海有机化学研究所, 上海 200032

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摘要 向二亚胺RN=C=NR (R=Cy, ⁱPr) 中加入等当量的LiⁱNPr₂或LiN(CH₂)₅可以得到相应的胍基锂盐[Li(RNC(NR'₂)NR)(THF)]₂(R=ⁱPr, NR'₂=ⁱNPr₂ (1), N(CH₂)₅

(2); R=cyclohexyl; R'=NⁱPr₂(3), N(CH₂)₅ (4)). 用原位生成的胍基锂盐和ZrCl₄反应得到了一系列二(胍基)锆的二氯化物Zr(RNC(NR'₂)NR)₂Cl₂ (R=ⁱPr, NR'₂=NⁱPr₂ (5), N(CH₂)₅ (6); R=Cy; R'=NⁱPr₂ (7), N(CH₂)₅ (8)). 配合物1, 2, 5-8都经过了元素分析、红外和氢谱表征, 同时还测定了配合物1, 7和8的晶体结构。

关键词 [胍, 锆, 晶体结构](#)

分类号

Synthesis and Characterization of Bis(guanidinate) Zirconium Complexes

PANG Xing-An, YAO Ying-Ming, WANG Jun-Feng, SHENG Hong-Ting, ZHANG Yong, SHEN Qi*

¹Department of Chemistry and Chemical Engineering, Suzhou University, Suzhou, Jiangsu 215006, China

²State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

Abstract Addition of one equivalent of LiN(*i*-Pr)₂ or LiN(CH₂)₅ to carbodiimides, RN=C=NR [R=cyclohexyl (Cy), isopropyl (*i*-Pr)], generated the corresponding lithium of tetrasubstituted guanidates {Li[RNC(NR'₂)NR](THF)}₂ [R=*i*-Pr, NR'₂']NR>=N(*i*-Pr)₂ (1), N(CH₂)₅ (2); R=Cy, NR'₂']=N(*i*-Pr)₂ (3), N(CH₂)₅ (4)]. Treatment of ZrCl₄ with freshly prepared solutions of their lithium guanidates provided a series of bis(guanidinate) complexes of Zr with the general formula Zr[RNC(NR'₂)NRNR]₂Cl₂ [R=*i*-Pr, NR'₂')NR=N(*i*-Pr)₂ (5), N(CH₂)₅ (6); R=Cy, NR'₂')=N(*i*-Pr)₂ (7), N(CH₂)₅ (8)]. Complexes 1, 2, 5—8 were characterized by elemental analysis, IR and ¹H NMR spectra. The molecular structures of complexes 1, 7 and 8 were further determined by X-ray diffraction studies.

Key words [guanidinate](#) [zirconium](#) [crystal structure](#)

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通讯作者 沈琪 qshen@suda.edu.cn

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