

研究论文

邻苯二甲酸-乙酸铜分子印迹聚合物识别性能的研究

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摘要 以邻苯二甲酸与乙酸铜的配合物为模板, 在甲醇溶剂中制备印迹聚合物, 对其色谱保留行为及结构类似物的识别性能进行了研究. 结果表明, 在甲醇溶液中, 该印迹聚合物不仅能够区分模板分子的结构类似物, 而且对配合物的金属阴、阳离子都具有很好的识别作用. 以邻苯二甲酸为模板制备的聚合物对模板分子本身的保留较弱, 但对模板与铜的配合物却表现出了很强的保留值, 在此从结构分析的角度给出了解释.

关键词 [邻苯二甲酸](#) [乙酸铜](#) [分子印迹聚合物](#)

分类号 [0657.32](#)

Recognition Performance of *o*-Phthalic Acid-Cu(Ac)₂ Molecular Imprinting Polymers

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Abstract Molecularly imprinted polymer (MIP) was synthesized by using the complex of *o*-phthalic acid-Cu(Ac)₂ as the template. The experimental results show that Cu(Ac)₂-*o*-PA imprinted polymer [P(PA/Cu)] has selective binding to its template complex, including selectivities to the anions, cations and *o*-PA analogues of the complex. The possible structure of the complex Cu(Ac)₂-*o*-PA is also proposed according to the crystal structures of similar systems. According to the results, the acetate in Cu(Ac)₂ also participated the imprinting process and is a part of the template. Therefore, it plays an important role in the recognition of template and its analogue complexes. Additionally, the high retention of *o*-PA-imprinted polymer [P(PA)] toward Cu(Ac)₂-*o*-PA and similar Cu-complexes over *o*-PA itself is well explained by the binding similarity between 4-VP/*o*-PA and 4-VP/Cu(Ac)₂-*o*-PA. The metal ion-mediated imprinting approach of present study may find applications for the compound which can not be directly imprinted.

Key words [o-Phthalic acid](#) [Copper acetate](#) [Molecularly imprinted polymer](#)

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