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镍(II)-丁二酮肟体系极谱催化波的机理研究

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摘要 研究了镍(II)-丁二酮肟(DMG)体系极谱催化波的行为,
这一体系的极谱催化波可用于生物及岩矿中测定痕量镍和同时测定痕量镍、钴, 并对照研究了Co(II)-DMG体系和Ni(II)-DMG体系的机理.

关键词 镍 镍 极谱分析 肟 丁二酮 P 催化波

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Study on the polarographic catalytic wave of the Ni(II)-dimethylglyoxime system

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Abstract In the Ni(II)-dimethylglyoxime (H2DMG)-NH3-NH4Cl (pH9) system, Ni(II) (HDMG)2 is adsorbed on the Hg electrode surface and a sensitive polarog. catalytic current is exhibited. The characteristics of the catalytic current were investigated by several methods. The experimental evidences showed that a zero-valence "active Ni" is formed during the reduction of Ni(II)(HDMG)2, similar to the "active Co" in the Co(II)-HDMG system, and simultaneously HDMG is catalytically reduced by the "active Ni". However the Ni-HDMG system differs from the Co-HDMG system in several aspects: (1) the difference of the structure between Ni(II)-HDMG and Co(II)-H2DMG complex; (2) Ni(II)(HDMG)2 has stronger adsorbability on the Hg electrode surface than that of Co(II)(HDMG)2, and (3) Ni(0) gives a stripping peak at -0.96 HV, while that of Co(0) is at -0.2 V.

Key words NICKEL NICKEL POLAROGRAPHIC ANALYSIS OXIME BUTANEDIONE P CATALYTIC WAVE

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