3—取代基—4—醚基雪梨酮之極譜研究

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摘要

先合成了八種 3—取代基—4—醚基雪梨酮，然後用滴汞電極 (dropping mercury electrode) 研究此類雪梨酮衍生物之還原現象。結果顯示取代基常數的準確性僅有一個限制：半波電位的數值僅受取代基在苯環共振及誘導效應的影響；即雪梨酮衍生物之取代基，若在苯環或雪梨酮環上而為推電子基時，取代基常數 (σ*) 為負值。若為拉電子基時，則其取代基常數為正值。然而所得的反應常數 (ρ1, σ) 為正值，其符合修正過的 Hammett 式。雪梨酮衍生物之取代基，若不在苯環或雪梨酮上，則不能符合修正過的 Hammett 式。
Study of the Polarographic Reduction of

3-Substituted-4-Acylsydnones

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Abstract

Eight 3-substituted-4-acylsydnones were synthesized and the polarographic reaction were investigated carefully. The substituent constant show only a limited precision: The half-wave potentials are controlled by substituent inductive and mesomeric effects transmitted through the phenyl ring and sydnone rings. If an electron-donating group substituted on phenyl or sydnone ring, the substituent constant gives negative value; Whereas an electron-withdrawing group presents positive value. And the positive value of reaction constant ($\rho_{\pi,n}$) fit to the Modified Hammett Equation. If the substituent group was not on the phenyl or sydnone ring, the result values have large deviation.

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