

*The Polarography of Bis(dipyridyl)cobalt(III)
Complexes.*

Unstable Univalent Cobalt Complexes

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Vlček¹⁾ and Waide et al.²⁾ found that the tris(dipyridyl) complex ion, $[\text{Co}^{\text{III}}\text{dip}_3]^{3+}$, is reversibly reduced to the cobalt(I) state through cobalt(II) ion, $[\text{Co}^{\text{II}}\text{dip}_3]^{2+}$, the

1) A. A. Vlček, *Nature*, **180**, 573 (1957); *Z. Elektrochem.*, **61**, 1014 (1957); *Z. physik. Chem. Sonderheft* (Internationales Polarographisches Kolloquium, Dresden) (1958), p. 143.

2) G. M. Waide and B. Martin, *J. Inorg. & Nuclear Chem.*, **8**, 551 (1958).

Table I shows the half-wave potentials of the cobalt(III) complexes studied. As most of the second waves were fairly well covered by the hydrogen wave because of the amino acid liberated from the complex, the half-wave potentials could not necessarily be determined exactly. The oscillograms of the $dE/dt \sim E$ (potential) curves also indicated that the

reduction process takes place in two stages at the DME.

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