

SUPPLEMENT to Exp. #32, Voltaic Cell Measurements
Chemical Principles in the Laboratory, 8th ed., Slowinski

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Use this information for part A (Cell Potentials) of the experimental procedure (p. 255) and to help complete page 257 of the lab report.

	Electrode Systems Used in Cell	Measured Cell Potential, E°_{cell} (V)	Negative Electrode (anode)	Oxidation Reaction	$E^\circ_{\text{oxidation}}$ (V)	Reduction Reaction	$E^\circ_{\text{reduction}}$ (V)
1	Zn Zn ²⁺ Cu ²⁺ Cu	1.10	Zn	Zn → Zn ²⁺ + 2e ⁻	+0.76	Cu ²⁺ + 2e ⁻ → Cu	+0.34
2	Cu Cu ²⁺ Fe ³⁺ , Fe ²⁺ C _{graphite}		Cu	Cu → Cu ²⁺ + 2e ⁻	-0.34	Fe ³⁺ + e ⁻ → Fe ²⁺	
3	C _{graphite} Fe ²⁺ , Fe ³⁺ Br ₂ , Br ⁻ C _{graphite}		Fe ²⁺ , Fe ³⁺				
4	C _{graphite} Br ⁻ , Br ₂ Cl ₂ , Cl ⁻ C _{graphite}						
5	Zn Zn ²⁺ I ₂ , I ⁻ C _{graphite}						
6	Cu Cu ²⁺ Ag ⁺ Ag					Ag ⁺ + e ⁻ → Ag	+0.80
7	Zn Zn ²⁺ Ag ⁺ Ag						

Calculations

Use the same notes provided in your lab manual, with the following change:

B. Assume that $E^\circ(\text{Ag}^+, \text{Ag}) = 0.80$ Volts...