

Electrolysis

① Cathode: SPA gets reduced

Anode: SPA gets oxidized

②

| | Voltaic | Electrolytic |
|---------|---------|--------------|
| Cathode | + | - |
| Anode | - | + |

③ e^- move anode \rightarrow cathode

anions (+) move toward anode

cations (-) move toward cathode

④ Reaction in electrolytic cell is not spontaneous.
Application of a current (from power supply)
forces reaction to occur.

⑤ a) $\text{Cu(s)}, \text{Cu}^{2+}, \text{SO}_4^{2-}, \text{H}_2\text{O(l)}$

SPA

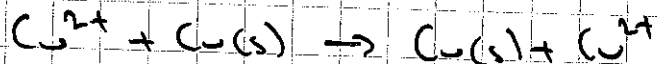
SPA



+0.34 V

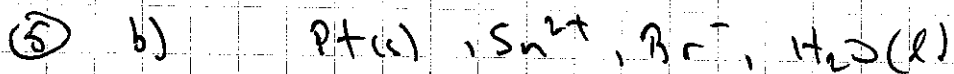


-0.34 V

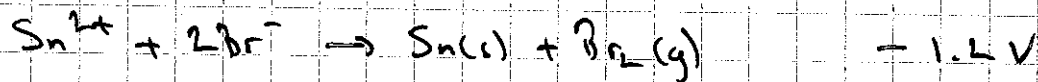
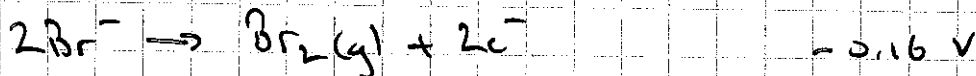
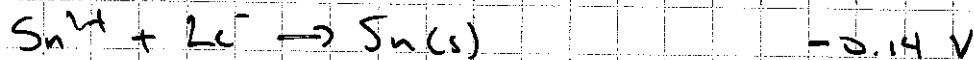


0 V

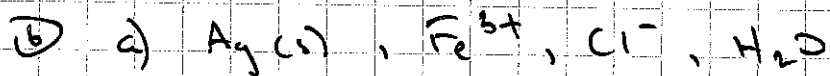
0 V required.



SOA SRA



1.2 V required.

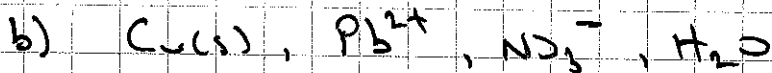


SRA SOA

Not spontaneous, since Fe^{3+}

+

$\text{Ag}(s)$



SRA SOA

Spontaneous, since

+

$\text{Cu}(s)$

NO_3^-