

Electrochemical

Spontaneous Chem rxn → produces electricity

$Mg^0 \rightarrow Mg^{+2} + 2e^-$

$Ni^{+2} + 2e^- \rightarrow Ni^0$

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$Ni^{+2} + 2e^- \rightarrow Ni^0$

$Ni^{+2} + Mg^0 \rightarrow Mg^{+2} + Ni^0 + 2.12V = E^0$

Electrolytic

Non-Spontaneous needs energy (ex: plating)

$Au^0 \rightarrow Au^+ + e^-$ OX

$e^- + Au^+ \rightarrow Au^0$ Red

$4.07V$ (Non-spont)

May 16-8:34 AM

(J)

most easily OXIDIZED

Metals OX (E)

$Na^0 \rightarrow Na^+ + 1e^-$

$Ca^0 \rightarrow Ca^{+2} + 2e^-$

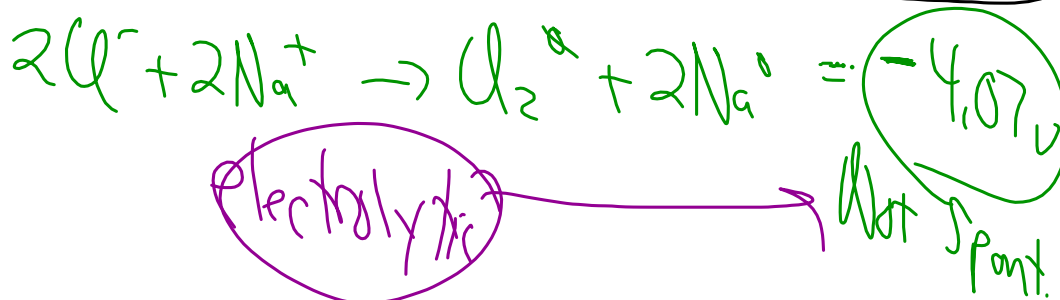
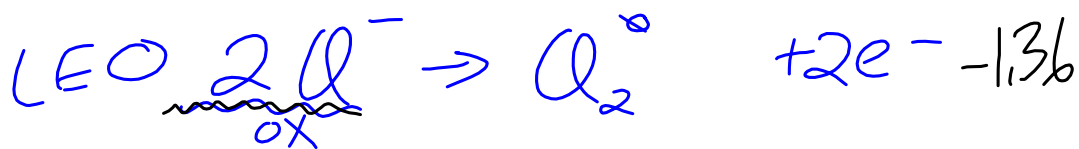
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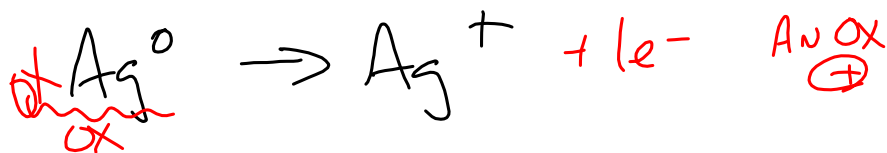
higher on table (J)

May 16-8:52 AM



May 16-9:17 AM

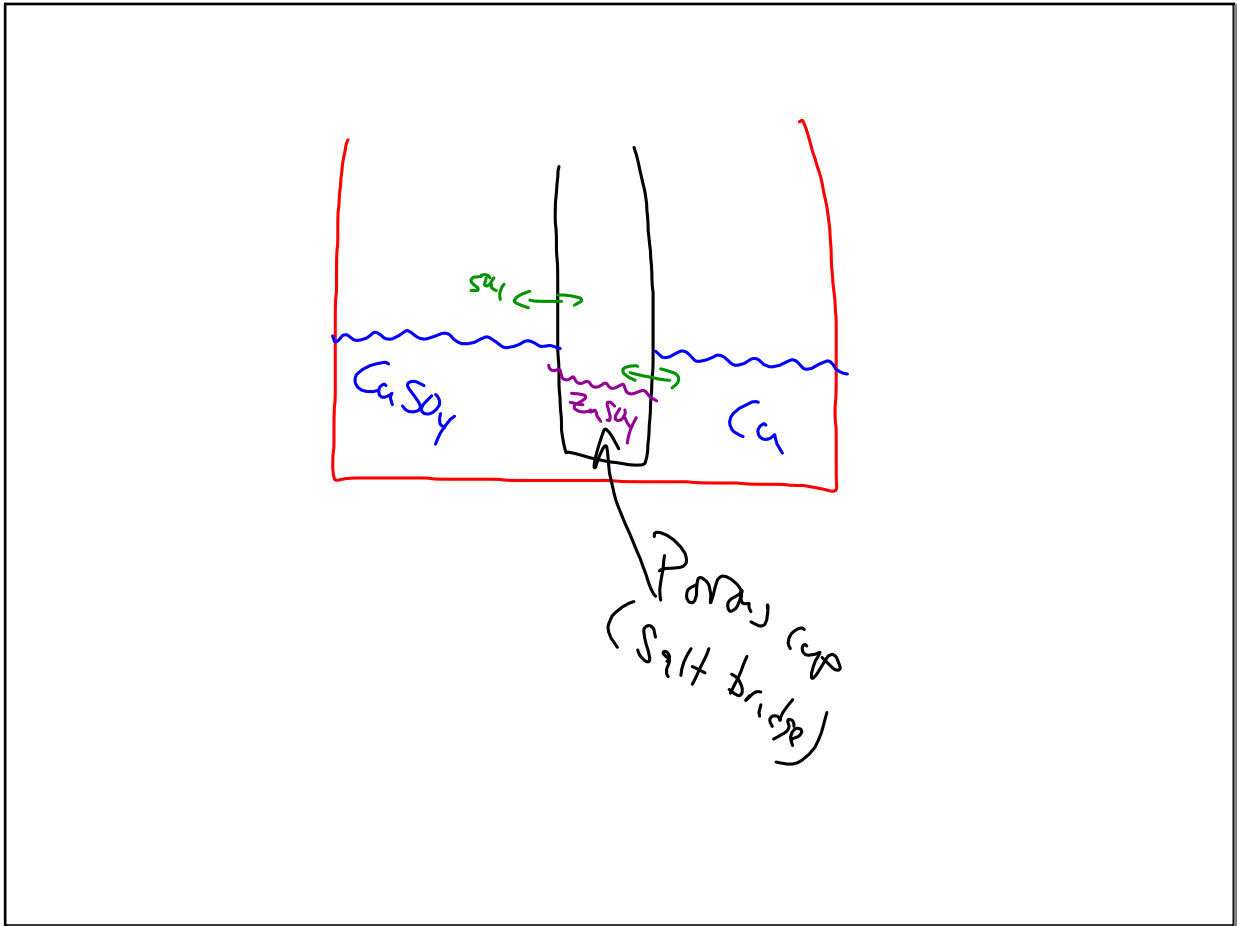
Pl (S) (U)
 Ag metal



(P)
 Spem
 Cathode



May 16-9:28 AM



May 16-9:32 AM

<u>Anode</u> ⊖	<u>Cathode</u> ⊕	<u>Voltage, V</u>
$Zn^0 \text{ in } Zn^{+2}$	$Cu^0 \text{ in } Cu^{+2}$	~~~~~
Wingnut Zn	Nail Cu	1.00V (6)
Screw, Zn	Phillips bit Cu	1.06V (5)
nail nut	Brass nut, Cu	1.67V (2)
N.A.	Slip	1.10V (4)
Wingnut	Spam	1.16V (6)

May 16-9:46 AM