

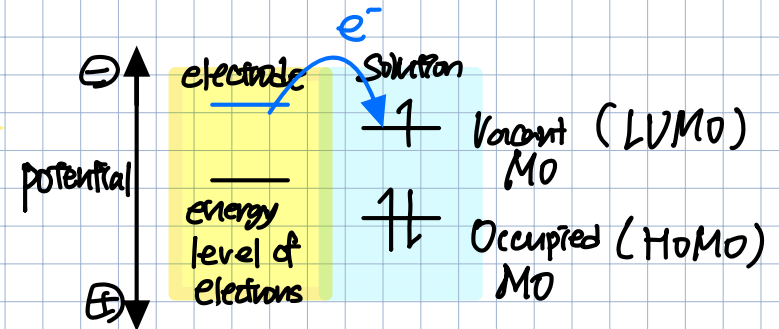
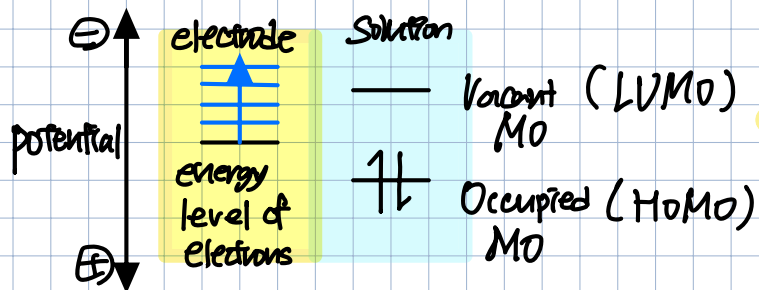
2. Microscopic understanding of electrochemistry

1 Review

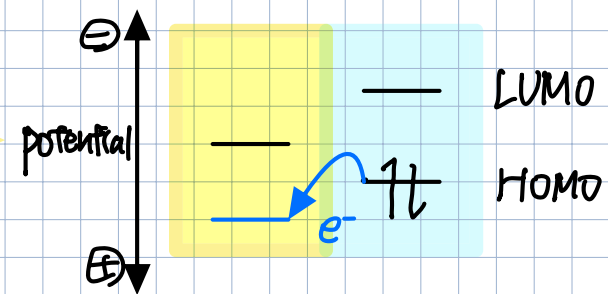
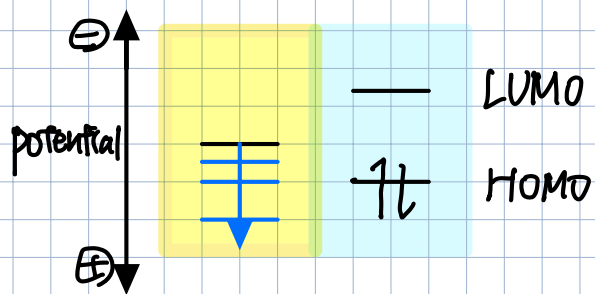
- What is electrochemistry?
- ~~Electrochemistry~~ (Standard potential, E°)

2 Oxidation & Reduction

→ Reduction

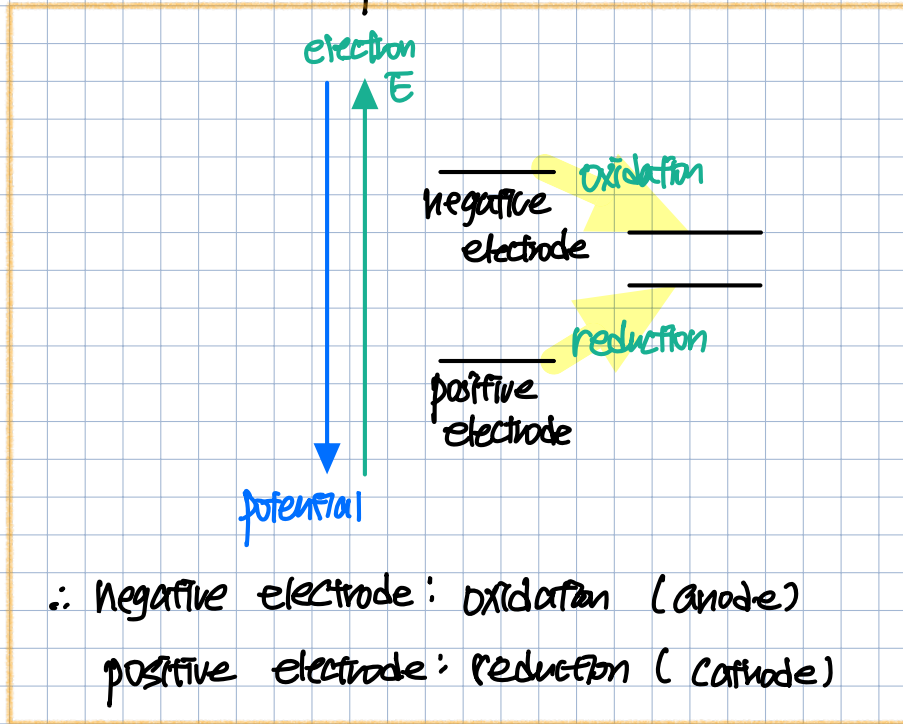


→ Oxidation

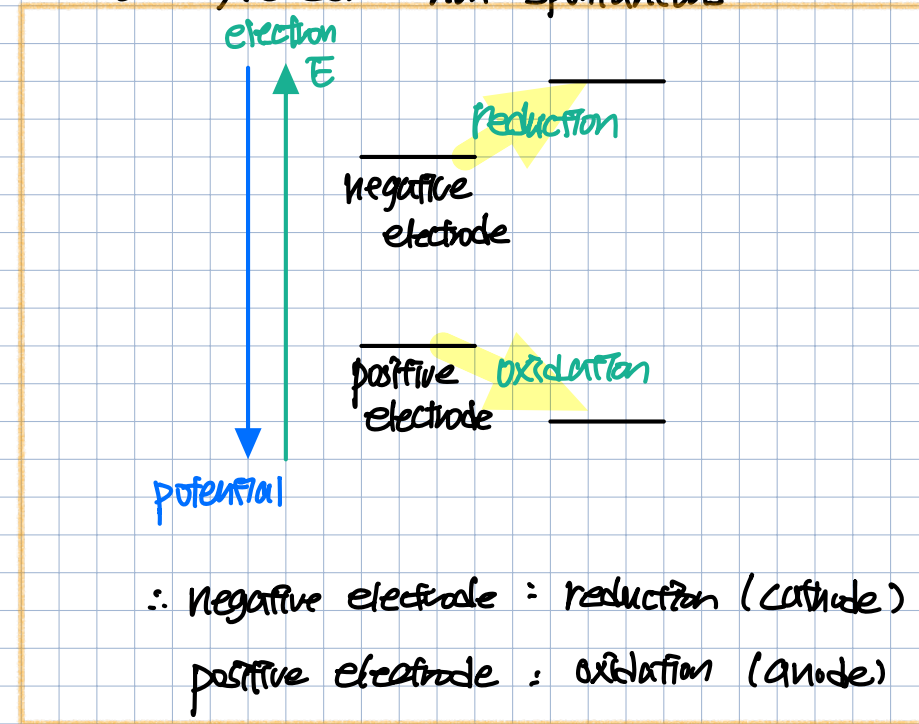


Galvanic cell vs. Electrolytic cell

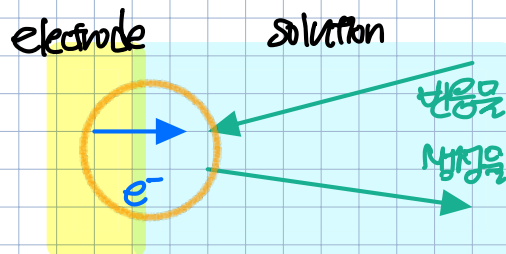
- Galvanic cell: spontaneous



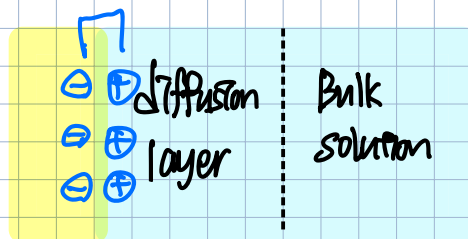
- Electrolytic cell: non-spontaneous



Mass transfer & charge transfer



- Charge transfer: heterogeneous (tunneling)
- mass transfer: diffusion, convection, migration



- Bulk solution
- Diffusion layer: @ chemical reaction
- Electric double-layer: @ different charges → Faradaic current