

LC23

Diagrammes potentiel-pH

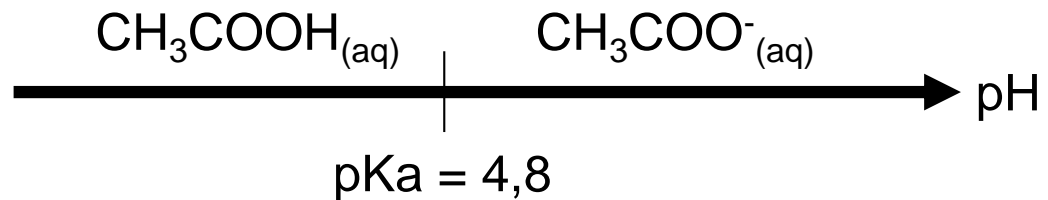
Rappels

Réactions acidobasique

Couple acide-base engageant un proton:

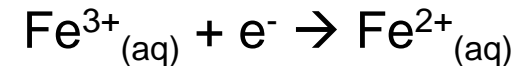


Diagramme de prédominance en solution aqueuse :



Réactions d'oxydoréduction

Couple oxydant-réducteur engageant un ou plusieurs électrons:



$$E = E^0 + \frac{RT}{2F} \ln \left(\frac{a(\text{Fe}^{3+})}{a(\text{Fe}^{2+})} \right) \simeq E^0 + \frac{0.06}{2} \log \left(\frac{[\text{Fe}^{3+}]_{\text{eq}}}{[\text{Fe}^{2+}]_{\text{eq}}} \right)$$

Diagramme de prédominance en solution aqueuse :

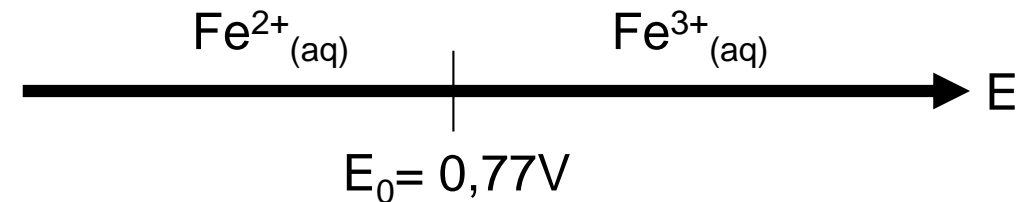


Diagramme Pourbaix Fer

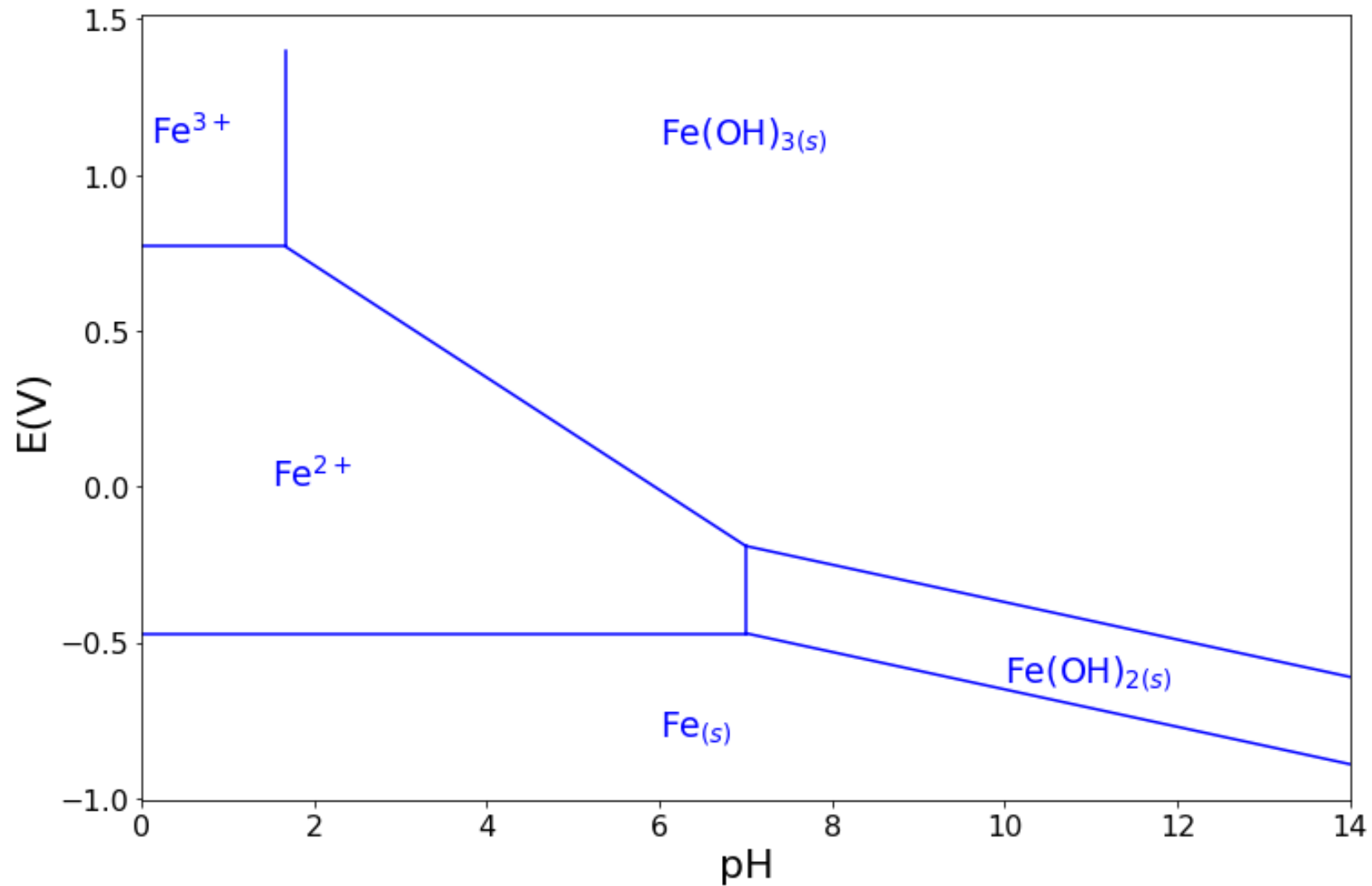


Diagramme Pourbaix Fer-Eau

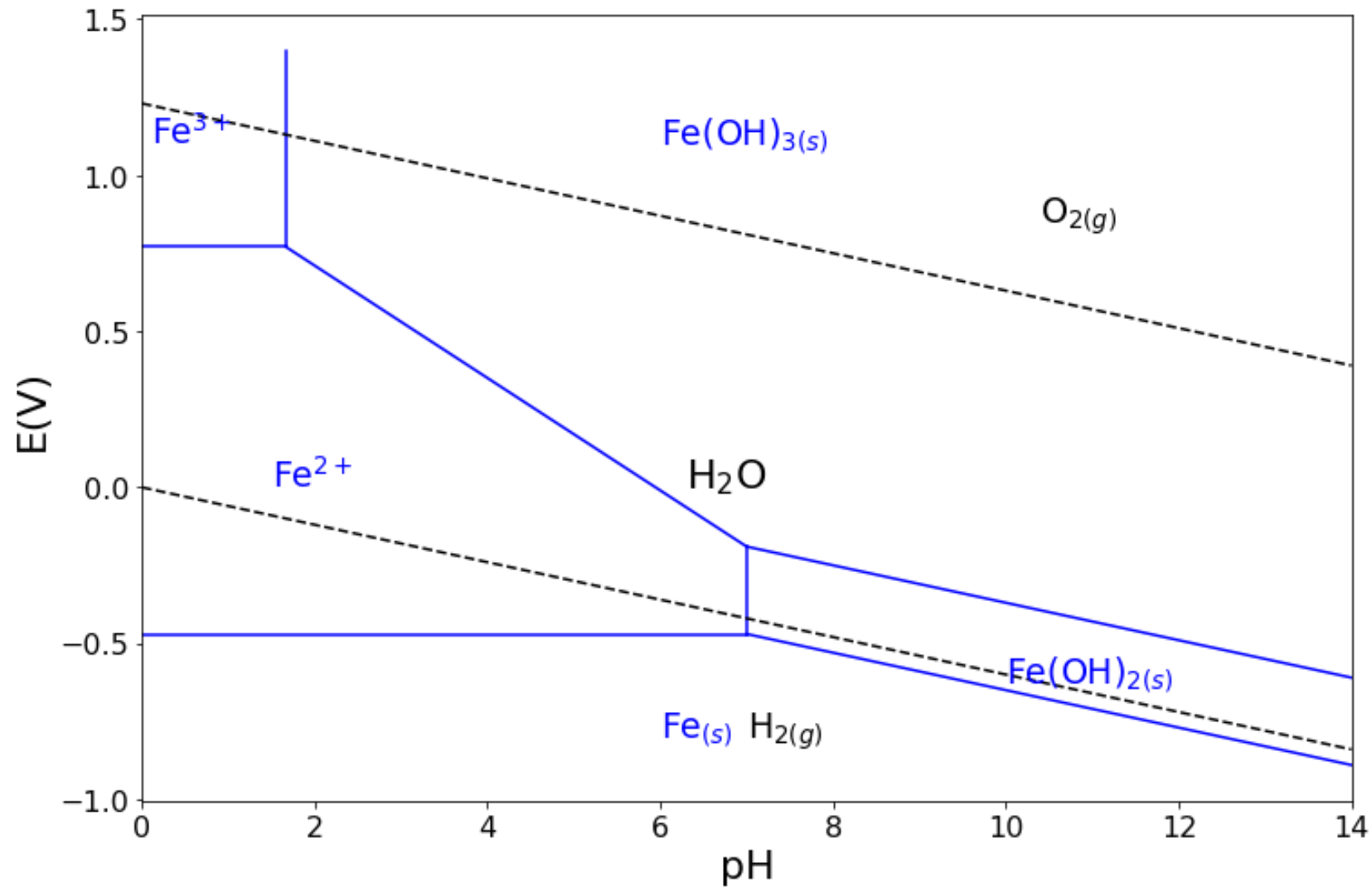


Diagramme Pourbaix Fer-eau-Aluminium

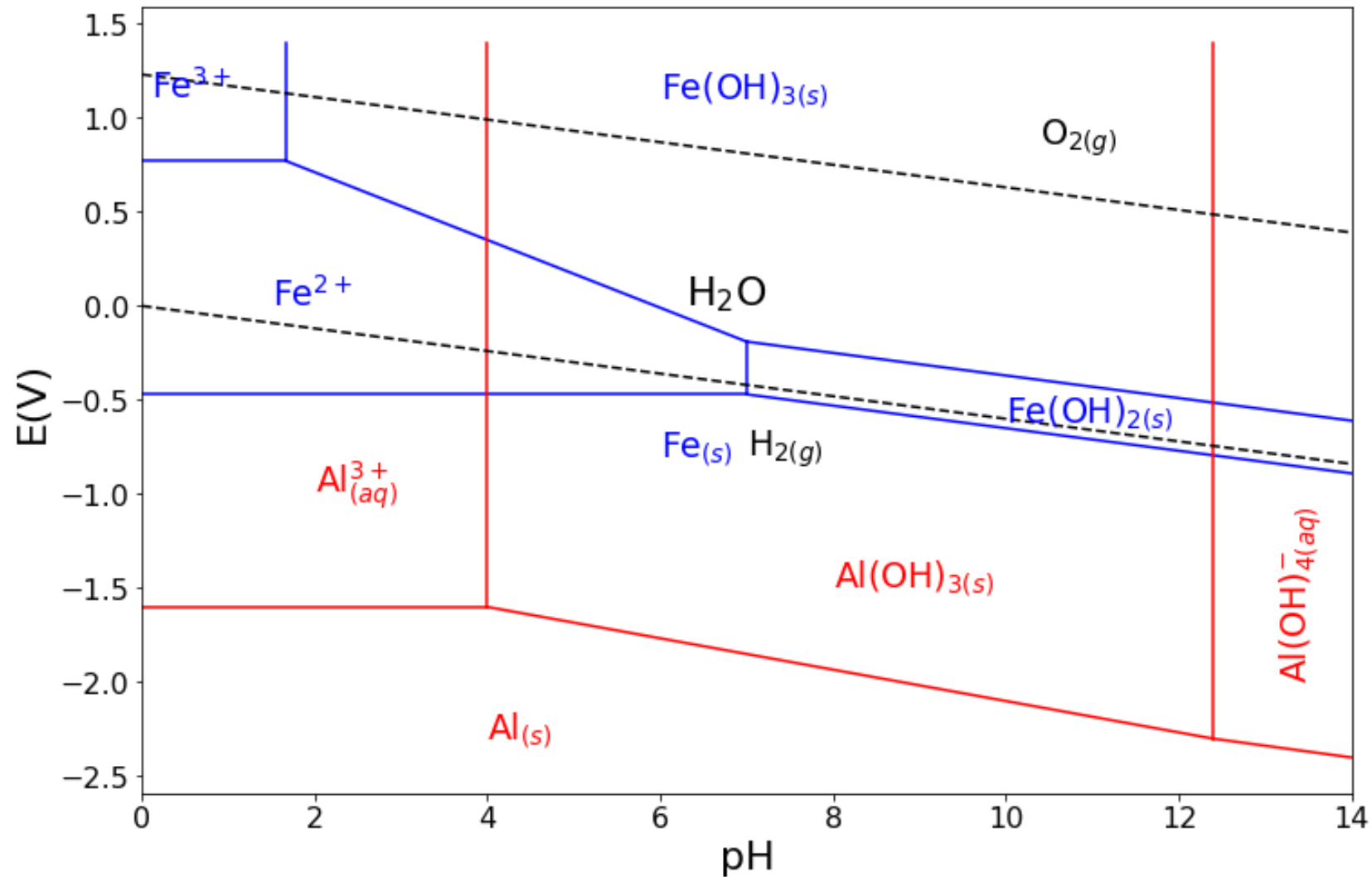


Diagramme Pourbaix Winkler

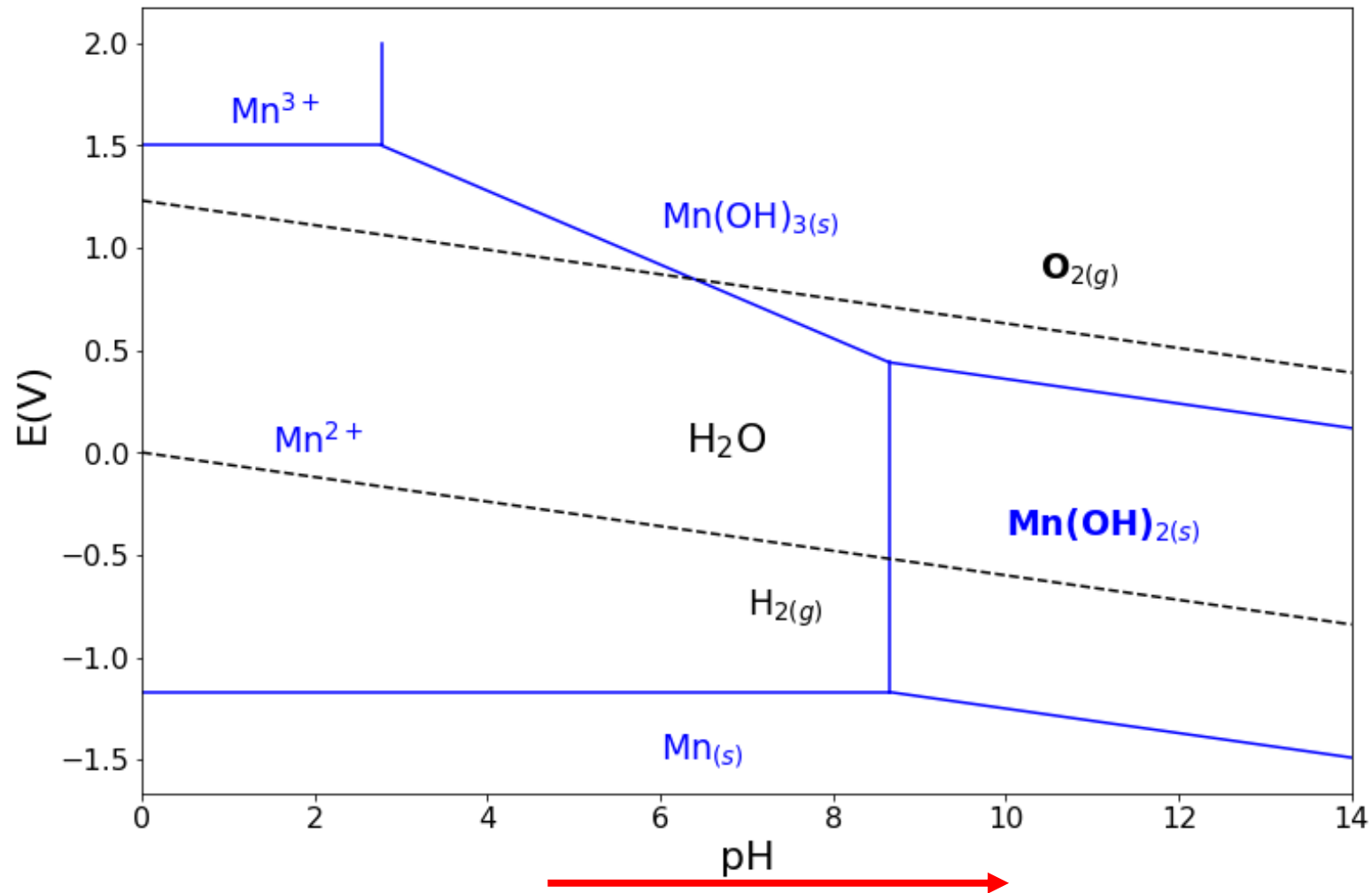


Diagramme Pourbaix Winkler

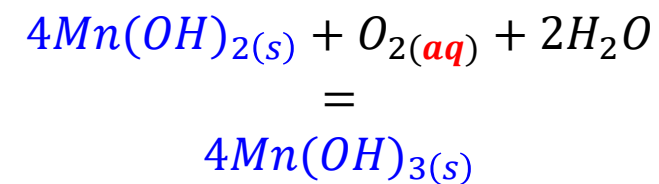
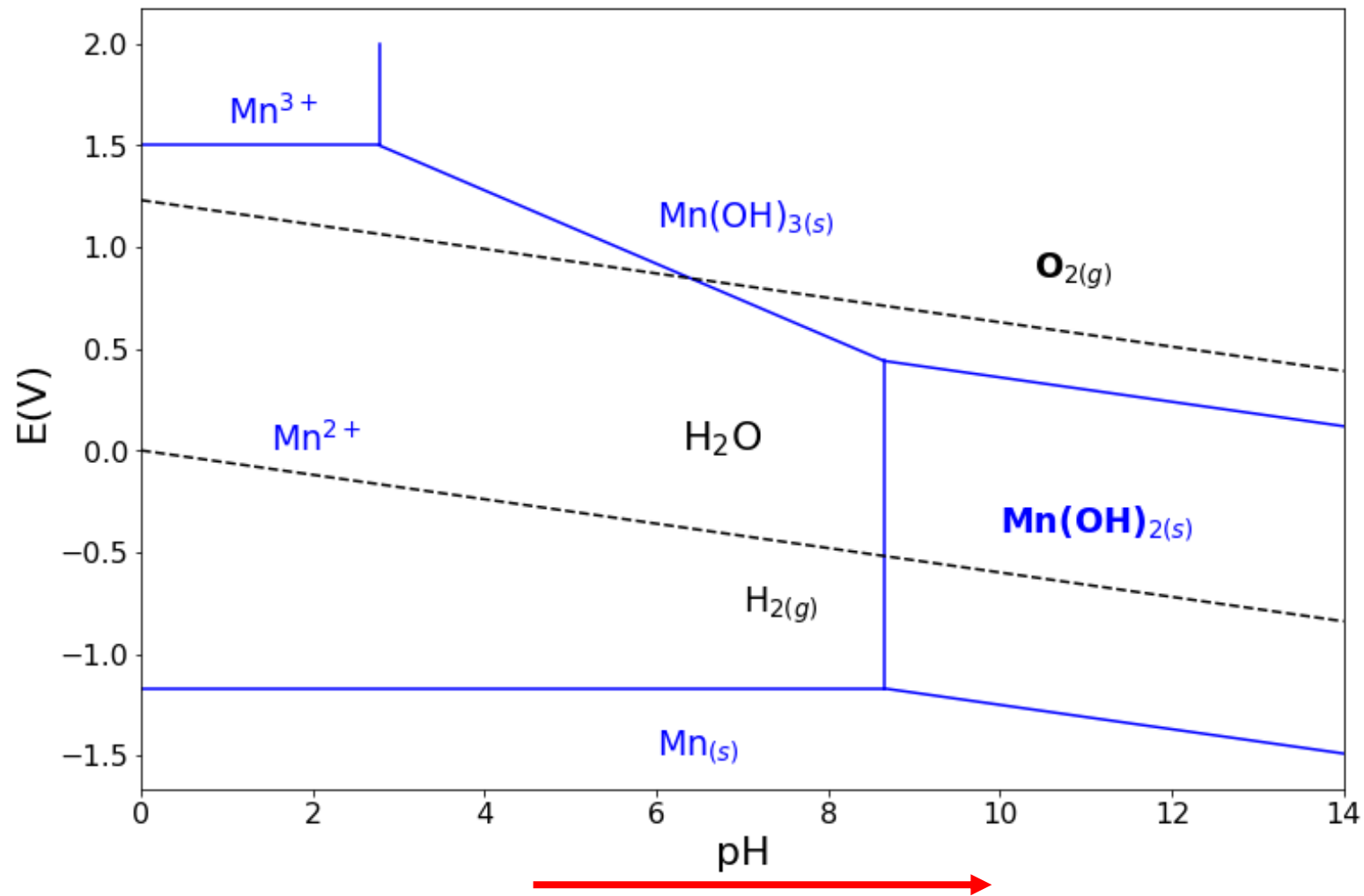


Diagramme Pourbaix Winkler

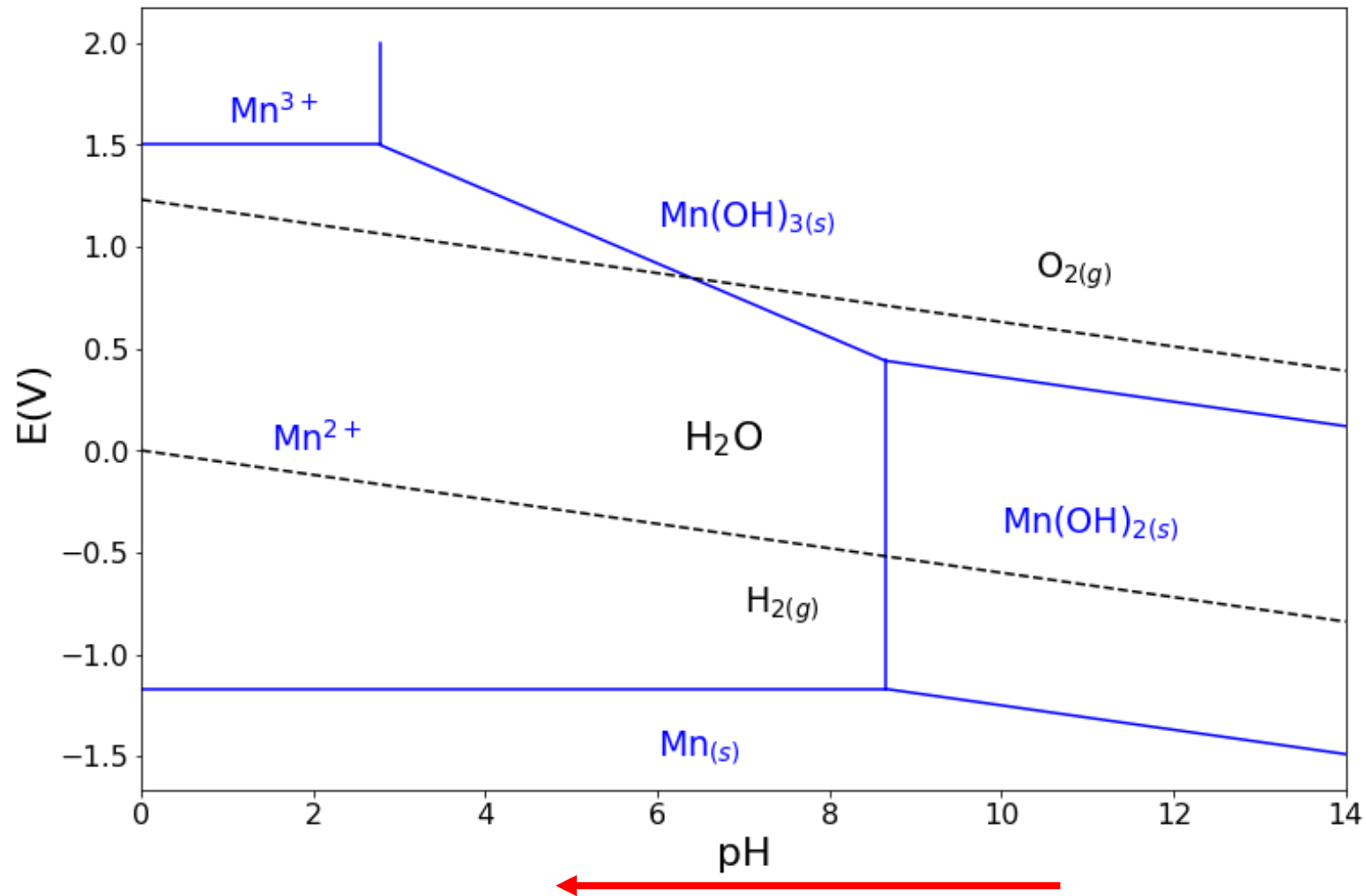
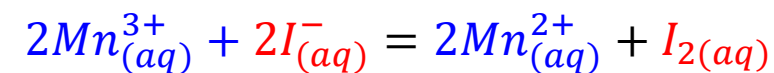
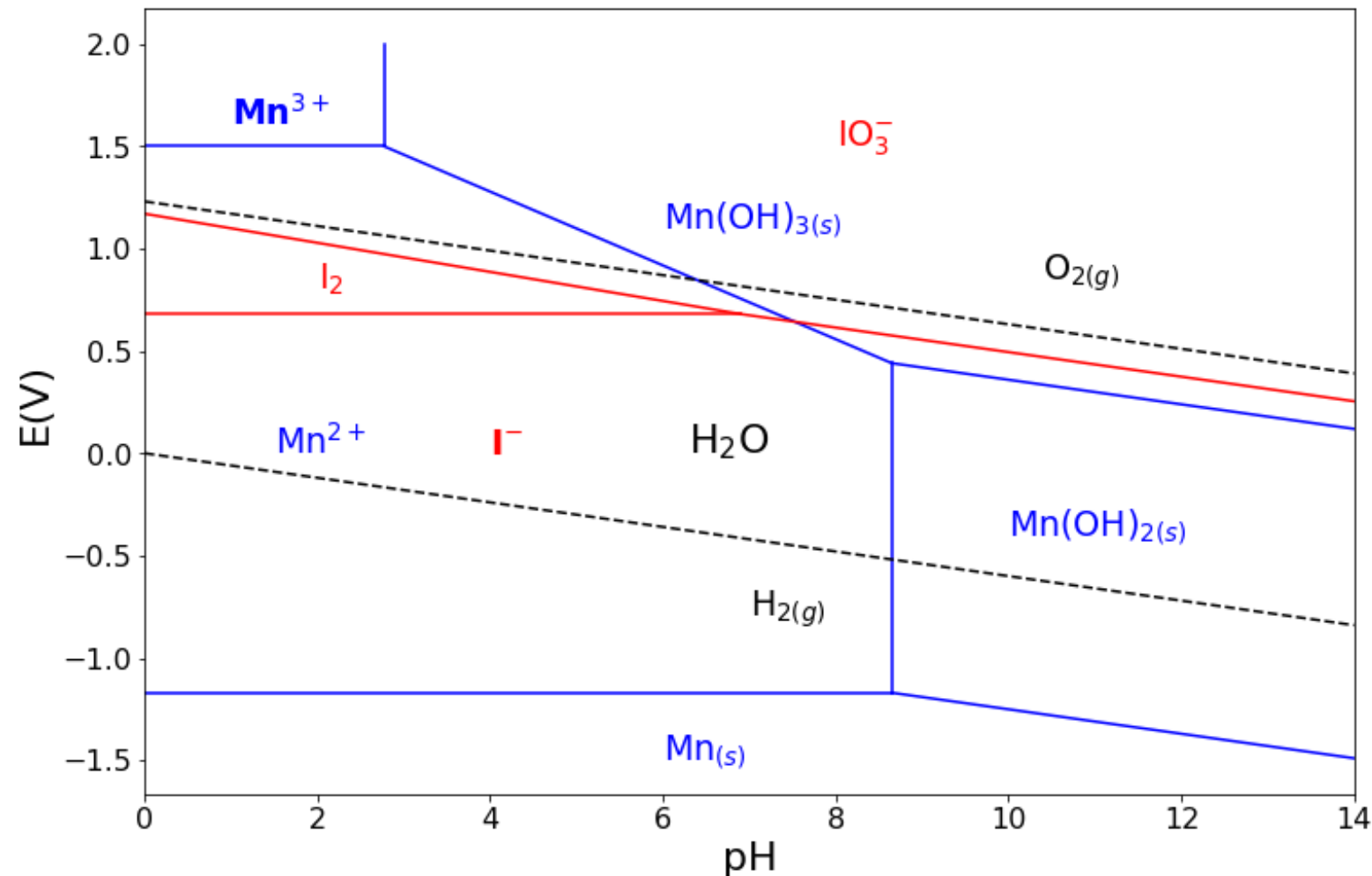
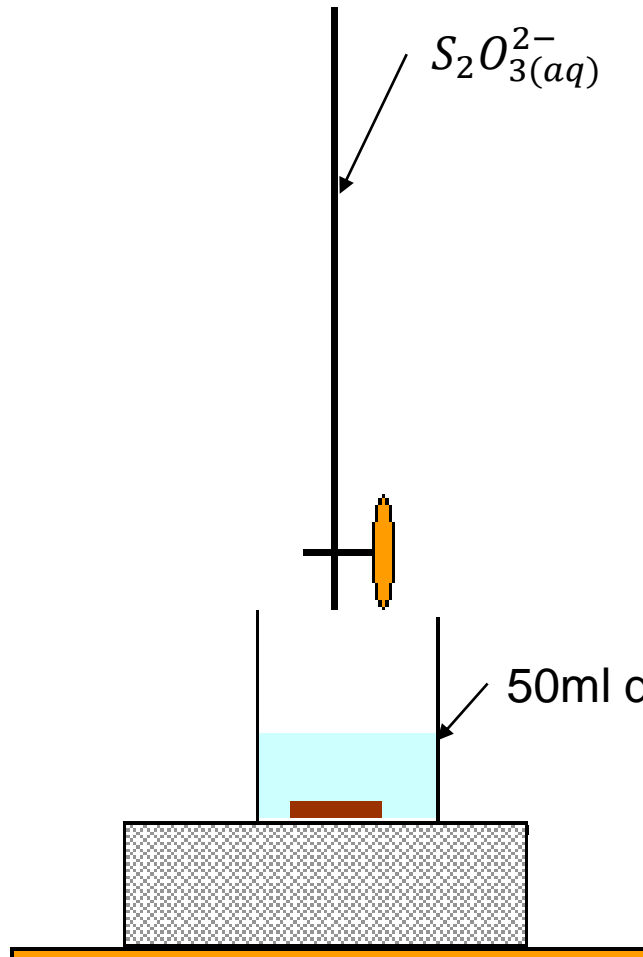


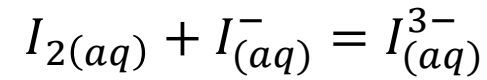
Diagramme Pourbaix Winkler



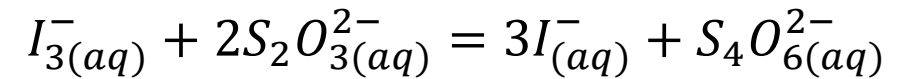
Titrage



Complexation du diode:



Reaction de titrage:



Détermination de $[O_2]$

- $[I_2]_{formé} = [I_3^-]_{dosé} = V_{eq} * \frac{[S_2O_3^{2-}]}{2V_0}$
- $[Mn(III)]_{formé} = 2[I_2]_{formé} = V_{eq} * \frac{[S_2O_3^{2-}]}{V_0}$
- $[O_2]_{dissout} = \frac{[Mn(III)]_{formé}}{4} = V_{eq} * \frac{[S_2O_3^{2-}]}{4V_0}$

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Numérotation	1A	1B	2	3
Classement	Excellente qualité	Potable	Industrielle	médiocre
Usages	Tout usage	Potable / Industrie alimentaire	Irrigation	refroidissement
$[O_2]$ dissout mg.L ⁻¹	>7	5 à 7	3 à 5	< 3