

施育仁 (Yu-Jen Shih)

永續淨水技術實驗室

(Lab. of Sustainable Water Purification)



研究專長

- 水化學
- 環境電化學技術
- 高級氧化處理
- 環境奈米材料合成與應用

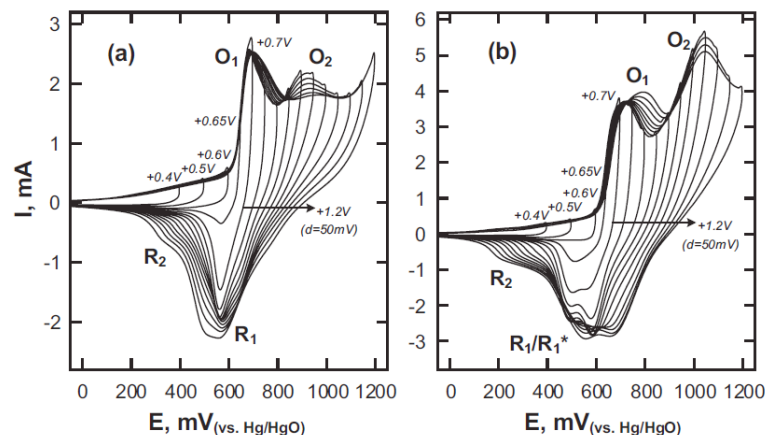
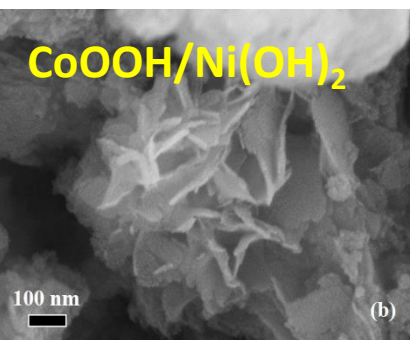
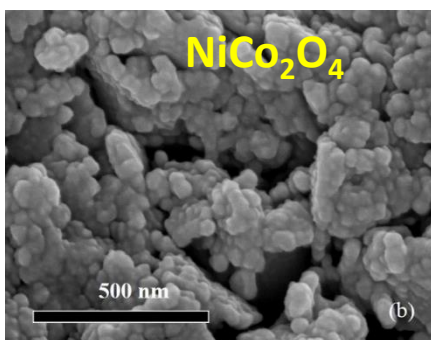
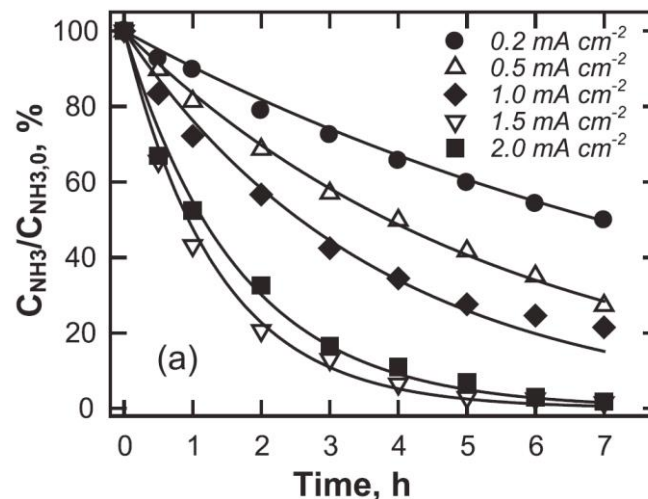
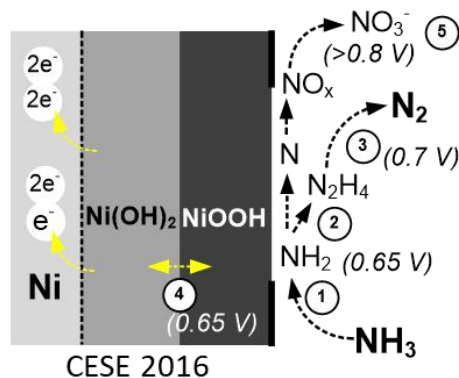
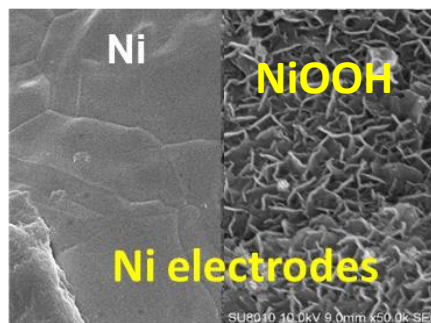
開設課程

高等水化學，淨水高級處理，環境化學，水污染防制，環境電化學原理與應用

計畫名稱	補助或委託機構	起訖日期	經費總額
修飾奈米銅基觸媒晶面與形貌效應提升 電化學降解水中無機污染物效率之研究 (108-2628-E-110 -005 -MY3)	科技部	2019/08/01 ~ 2022/07/31	3,796,200
合成碳基金屬氧化物複合電極進行電化 學氧化與吸附水中氧化陰離子(107-2221- E-110-001-MY3)	科技部	2018/08/01~ 2021/07/31	3,220,000
以電化學法控制水產養殖水體中氨氮之 研究 (107-P07)	中山大學/高雄科技大學	2018/01/01- 2018/12/31	500,000
開發奈米複合金屬/金屬氧化物電極進行 電化學礦化含氮廢水之研究(104-2218-E- 110-013-MY3)	科技部	2015/08/01~ 2018/09/30	2,226,000

Direct-electrochemical ammonia oxidation

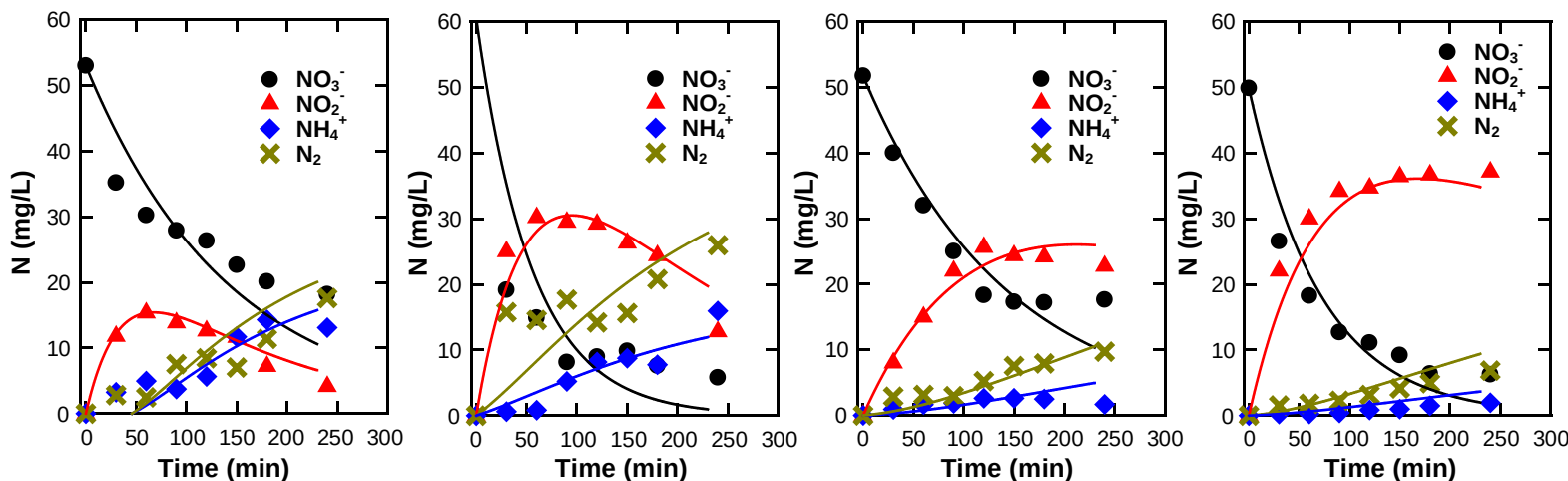
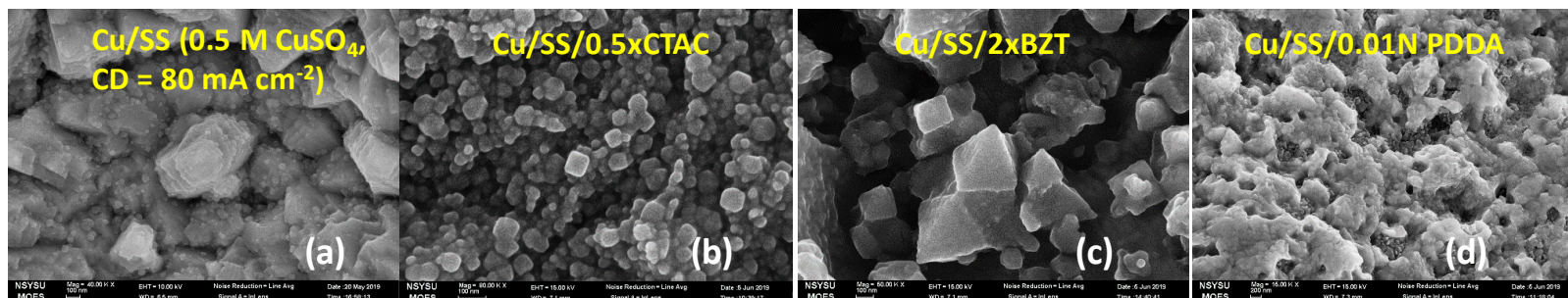
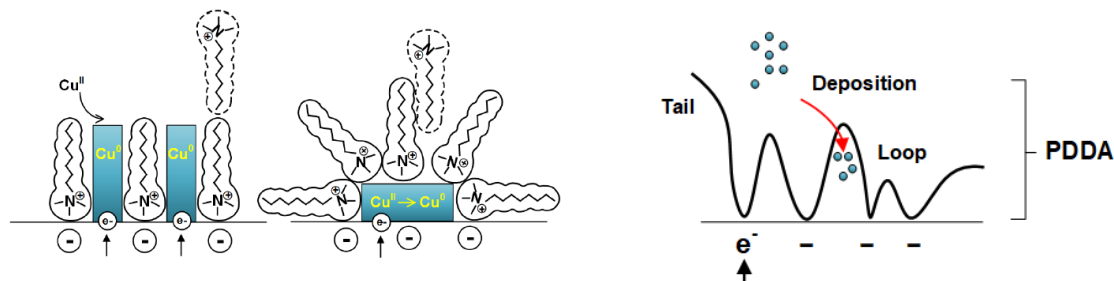
Ammonia oxidation on nano-textural metal oxides



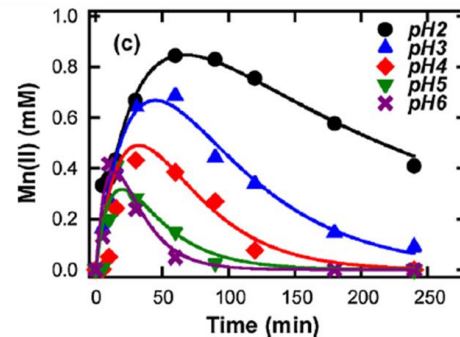
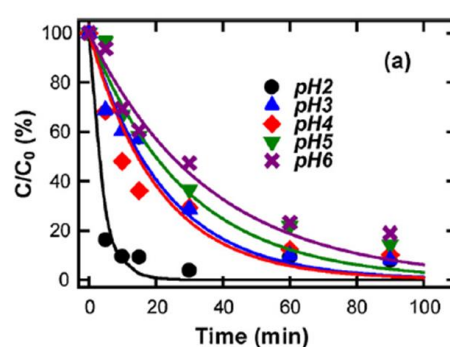
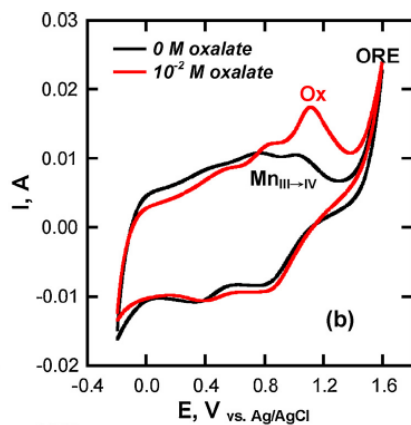
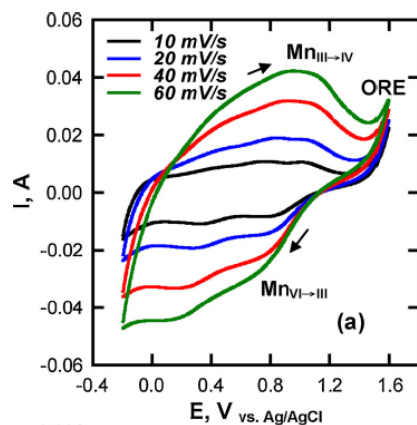
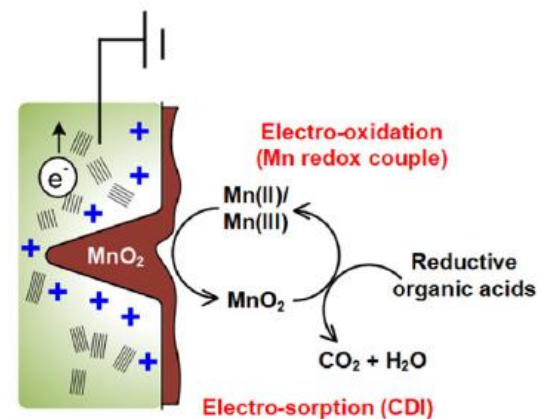
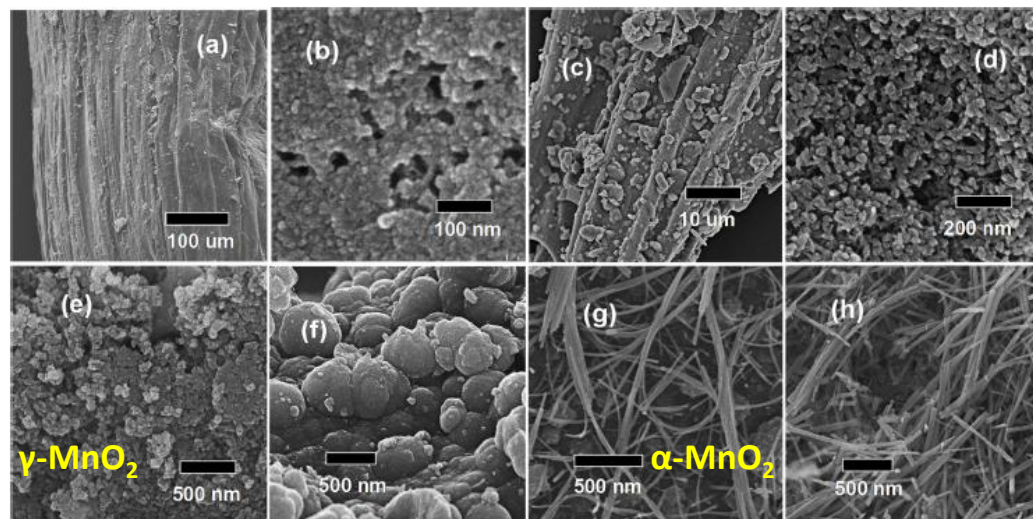
Electrochimica Acta 281 (2018) 410-419

Direct-electrochemical catalysis of nitrate reduction

Nitrate reduction on copper with tailoring crystal facet

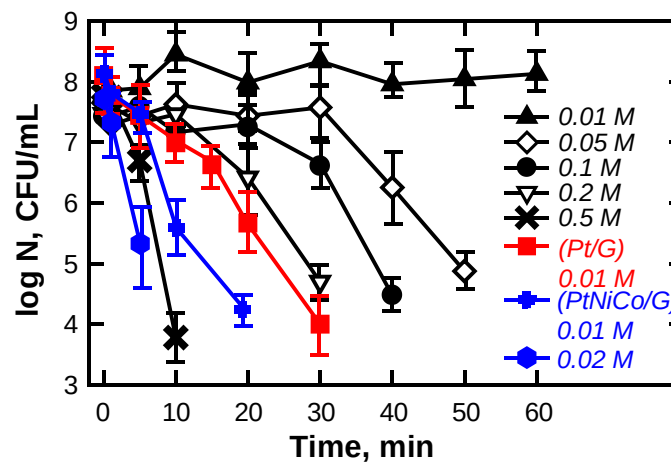
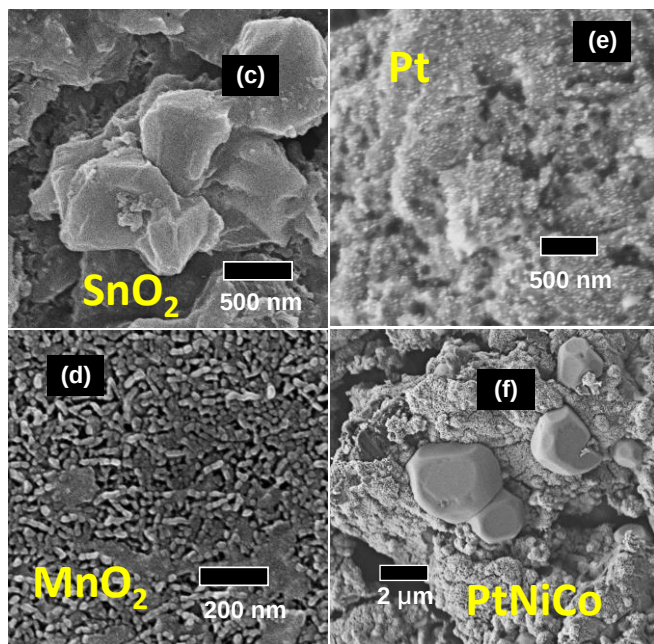
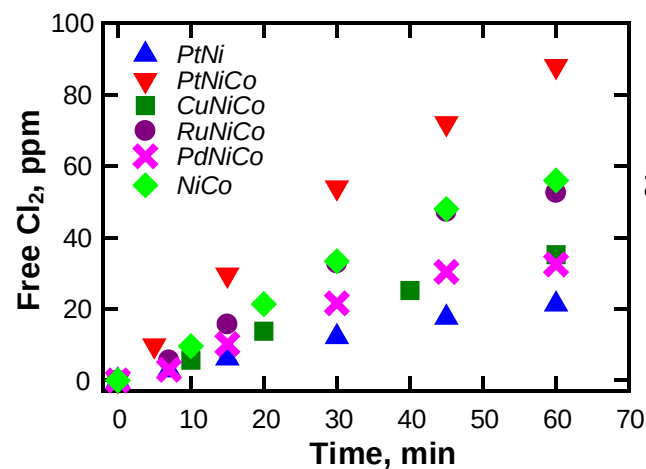
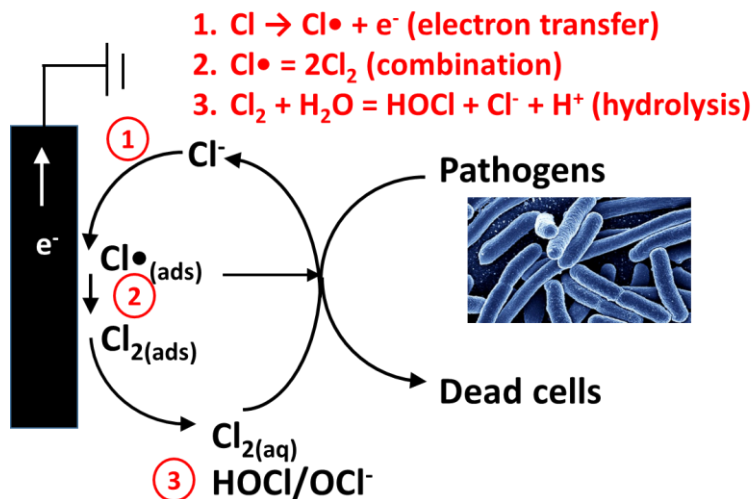


Electrochemical-adsorptive/oxidative degradation of organic acids



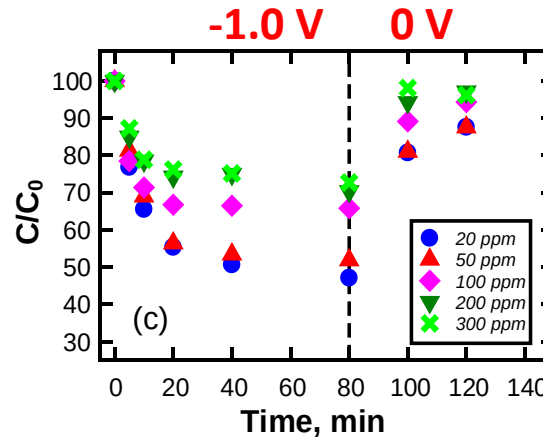
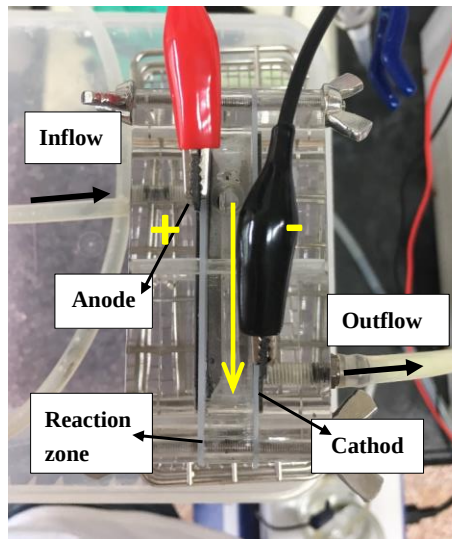
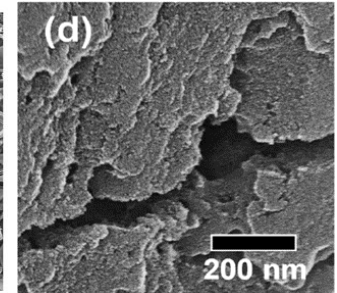
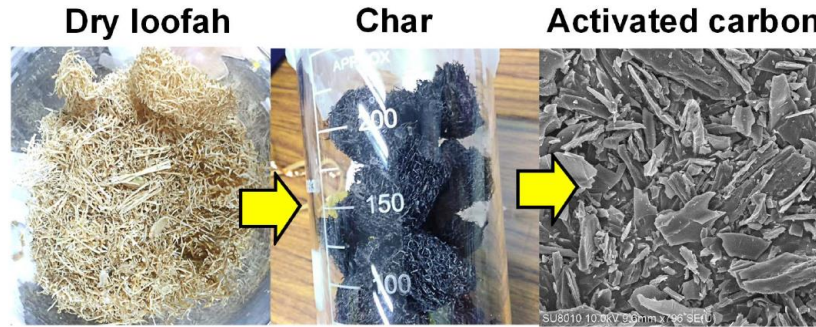
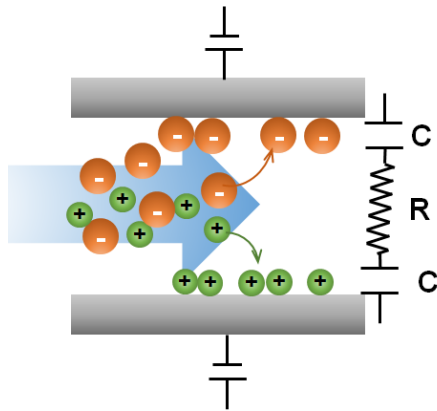
Journal of Hazardous Materials 379 (2019) 120759

Electrochemical chlorination over bimetallic oxides

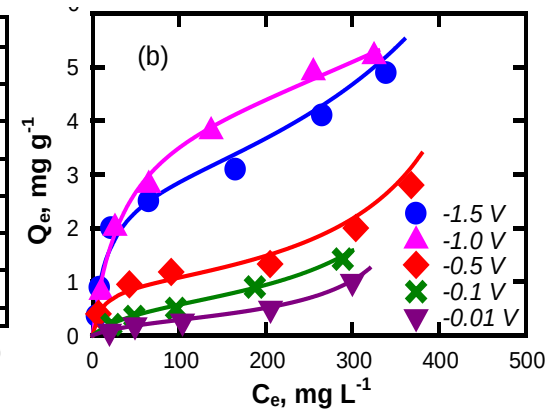


Separation and Purification Technology 156 (2015) 961–971

Capacitive electro-sorption of charged ions



Electro-sorption of ammonium ions



Science of the Total Environment 673 (2019) 296–305

Electrocoagulation of boron, fluoride and BF_4^-

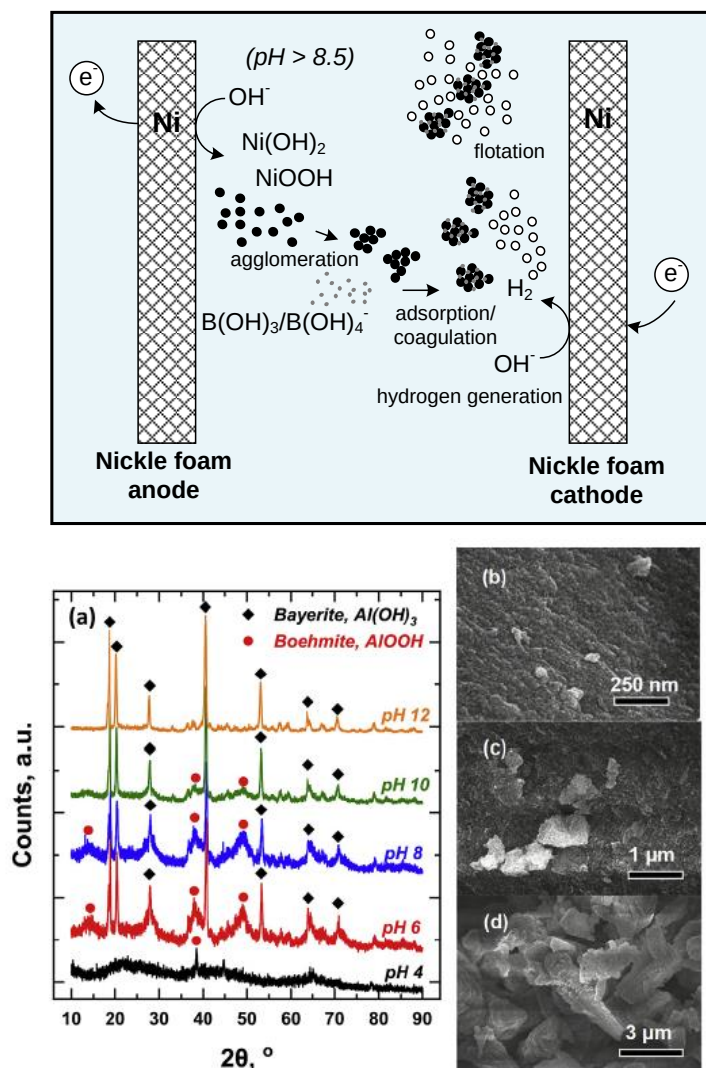


Fig. 5. (a) XRD patterns of precipitates generated in EC at various pH; SEM analysis of the precipitates collected from EC under (b) pH 4, (c) pH 8 and (d) pH 12.

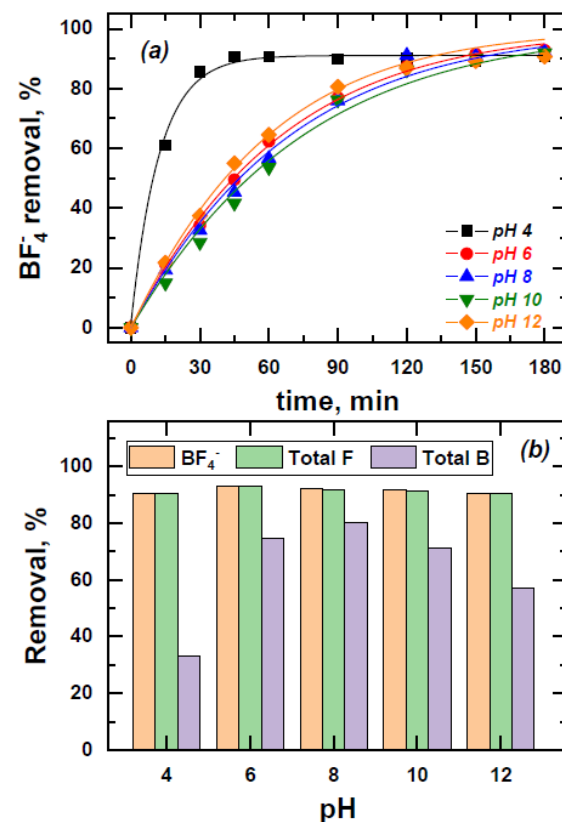
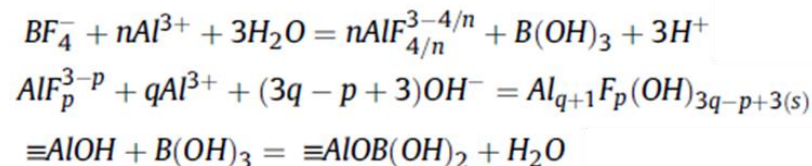


Fig. 4. Effect of reaction pH on (a) removal efficiency of tetrafluoroborate and (b) final removal rates of tetrafluoroborate, total fluoride and total boron at 180 min ($[\text{BF}_4^-]_0 = 0.93 \text{ mM}$, $[\text{NaCl}] = 10 \text{ mM}$).