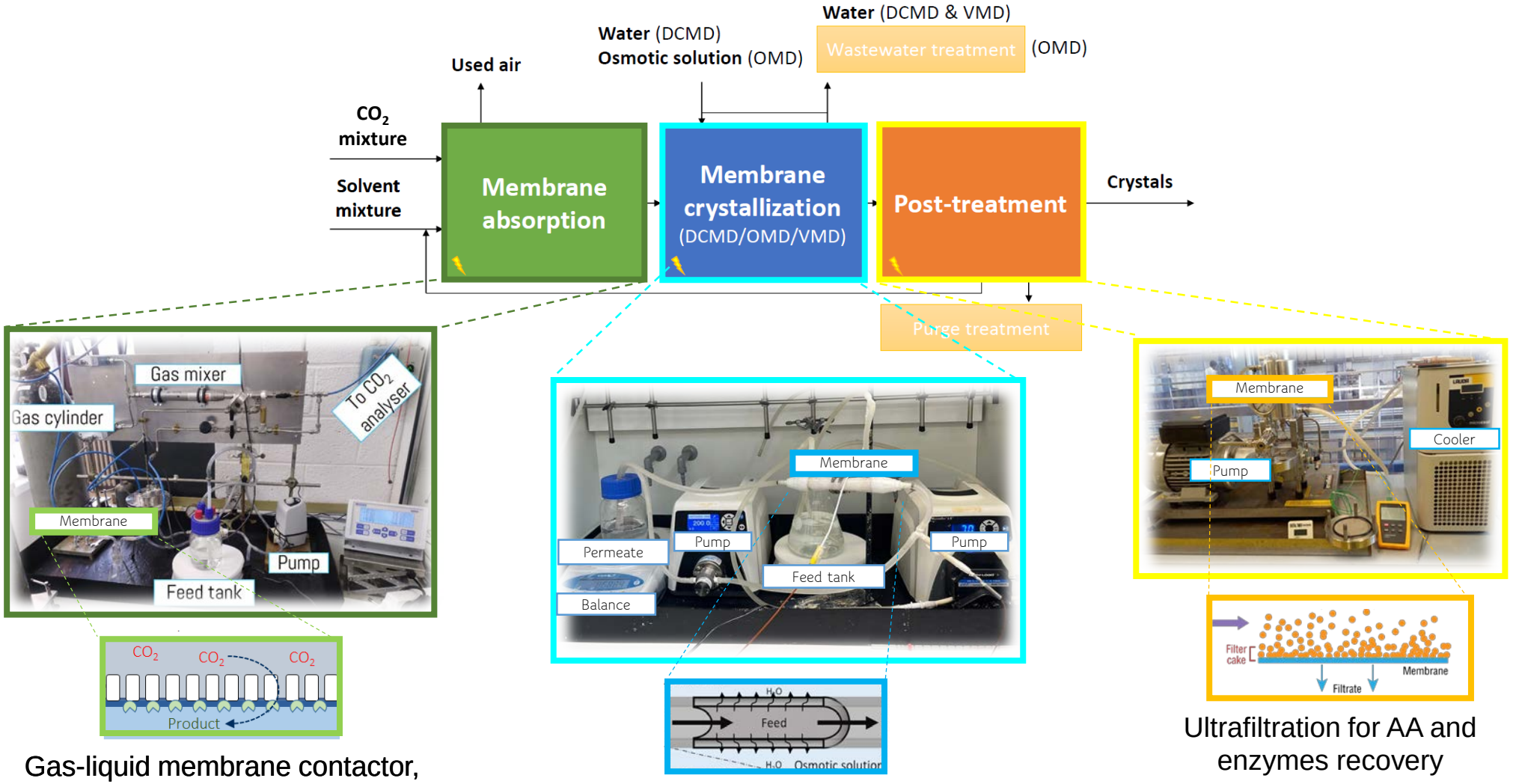
CO_2 capture and revalorization



Gas-liquid membrane contactor, enhanced with enzymes and AA

Osmotic, direct contact or vacuum membrane distillation-crystallization

Ultrafiltration for AA and enzymes recovery

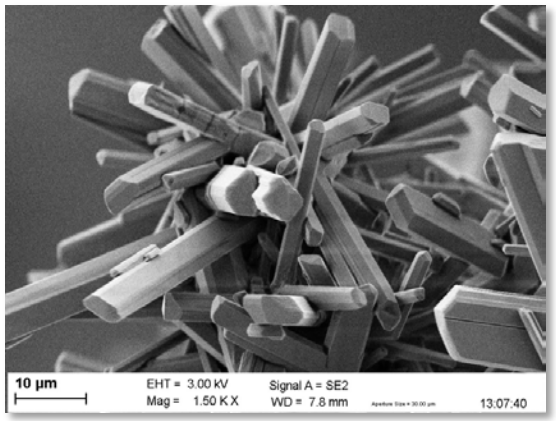
Membrane crystallization

Crystals production techniques

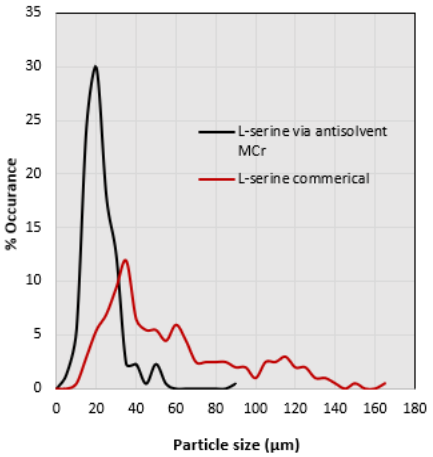
Osmotic, direct contact and vacuum membrane distillation-crystallization

Membrane-assisted anti-solvent crystallization

Crystals characterization



Morphology analysis via SEM imaging

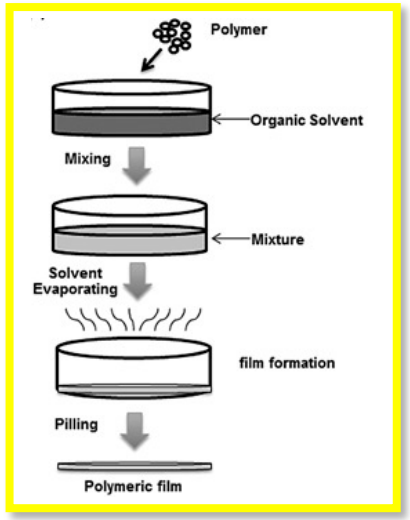


Crystal size distribution analysis via granulometry

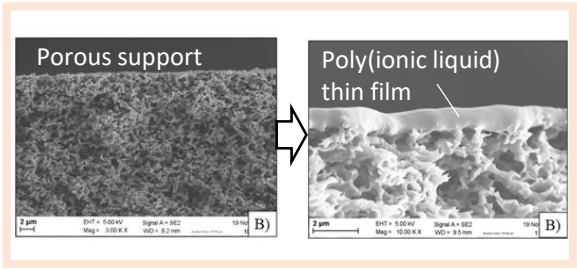
+ induction time measurement, computation of yield, purity analysis, …

Membrane synthesis

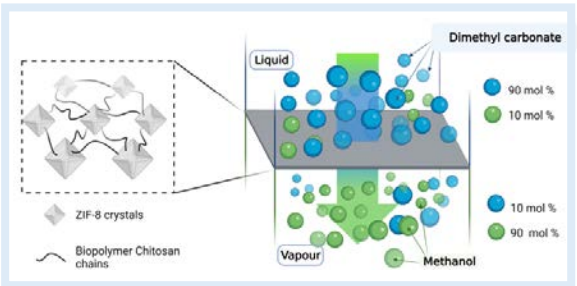
Casting table technique



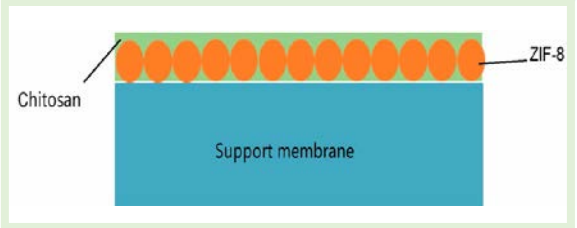
Solvent evaporation technique



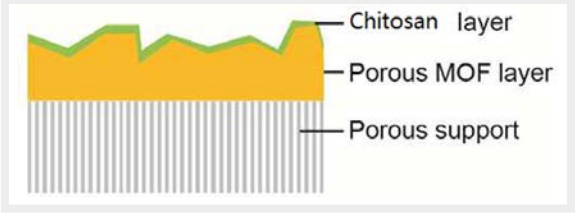
Poly(ionic liquid) composite membrane



Free-standing membrane



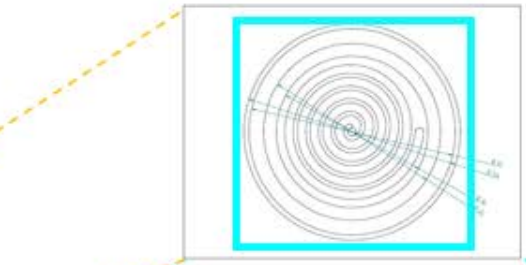
Chitosan ZIF-8 composite membrane

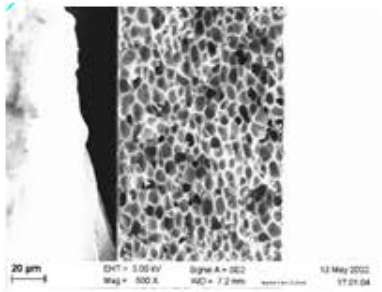


“Cap” asymmetric membrane

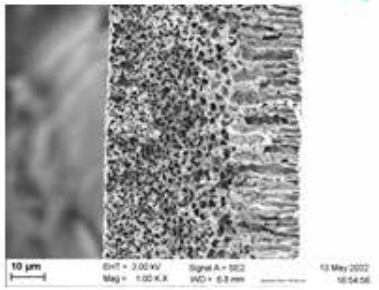
Separation of reaction mixtures

Membrane contactor setup

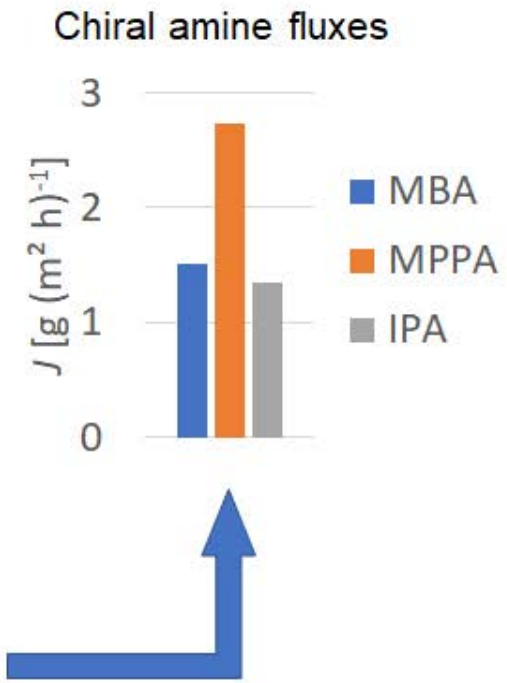




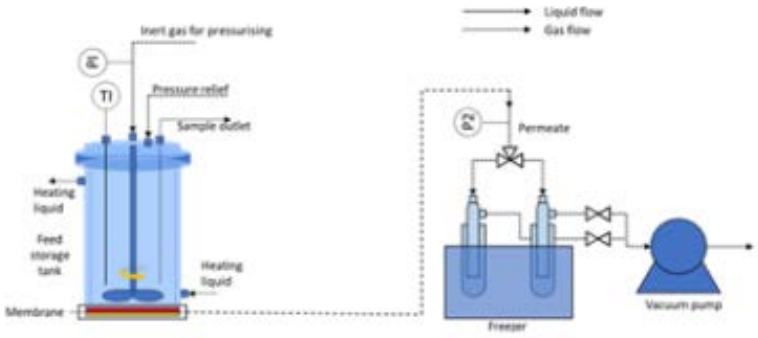
PIM with ionic liquid



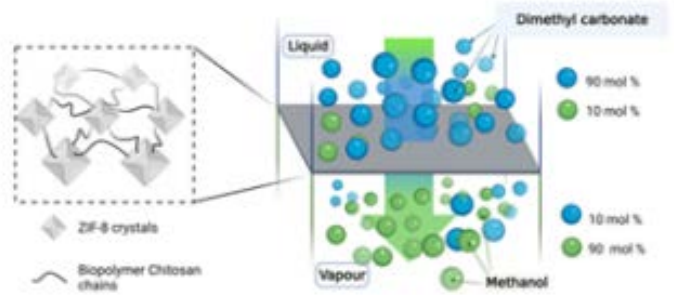
SLM with ionic liquid



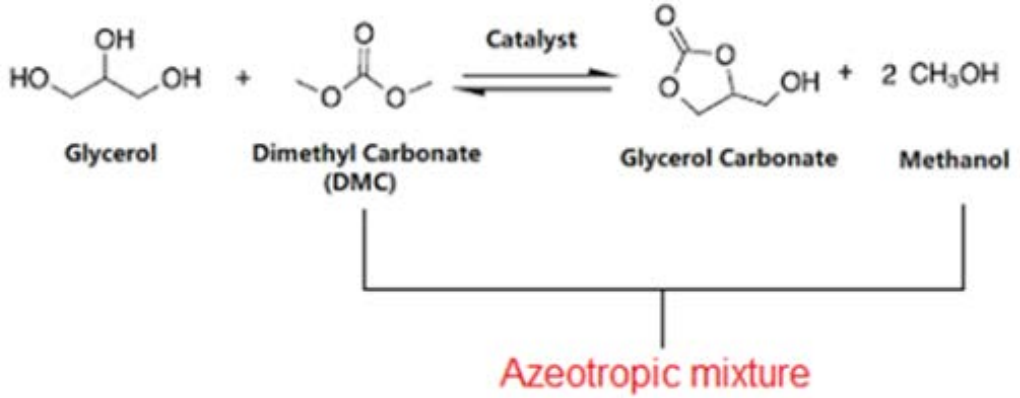
Separation of reaction mixtures (pervaporation)



Reactive pervaporation



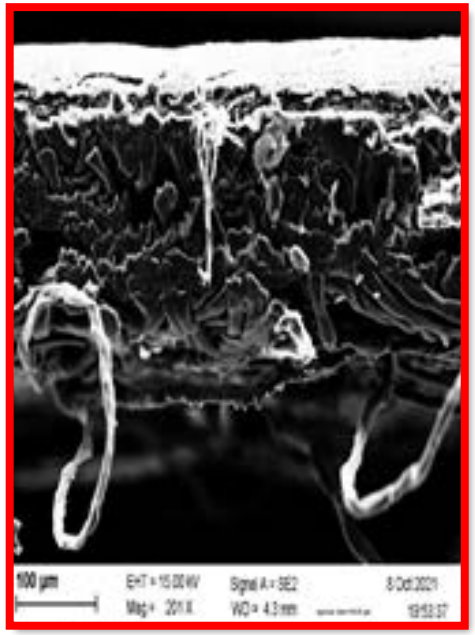
Methanol-selective membrane



Transesterification reaction

Water treatment

Casting table for the deposit of the thin layer on the support



Cross-section SEM image modified TFC membrane

Reverse osmosis setup for membrane testing

Cross-section SEM image modified TFC membrane