

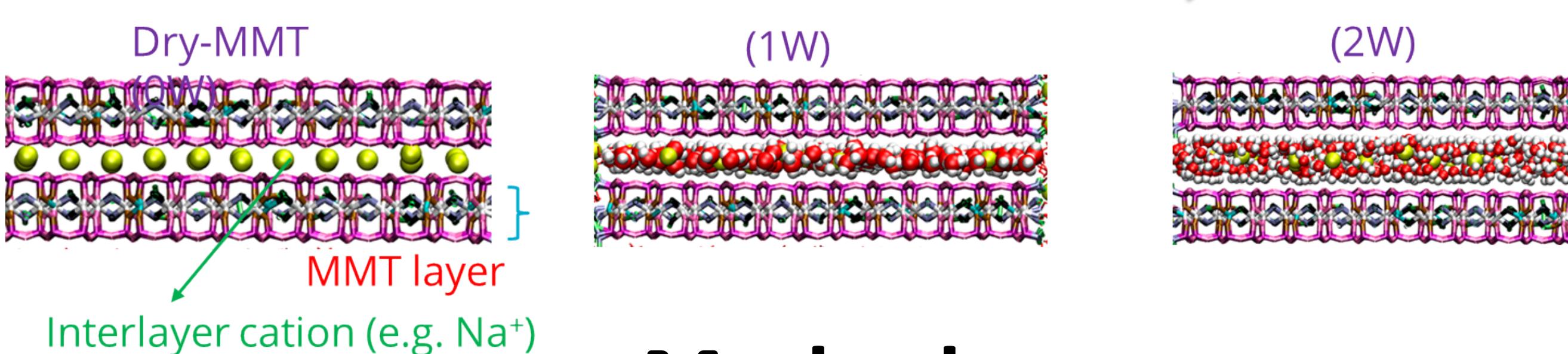
Control of surface hydrophobicity on water transport, swelling/shrinking, and intercalation of external species into clay interlayers

Tuan A. Ho

Geochemistry Department, Sandia National Laboratories, Albuquerque, NM 87123

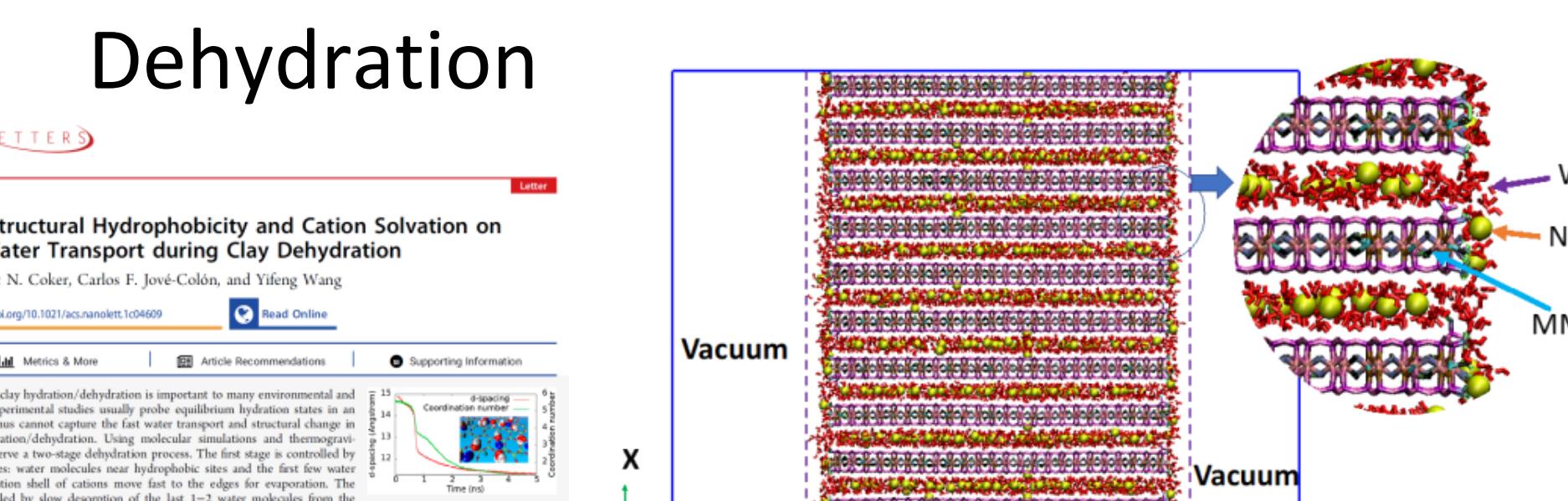
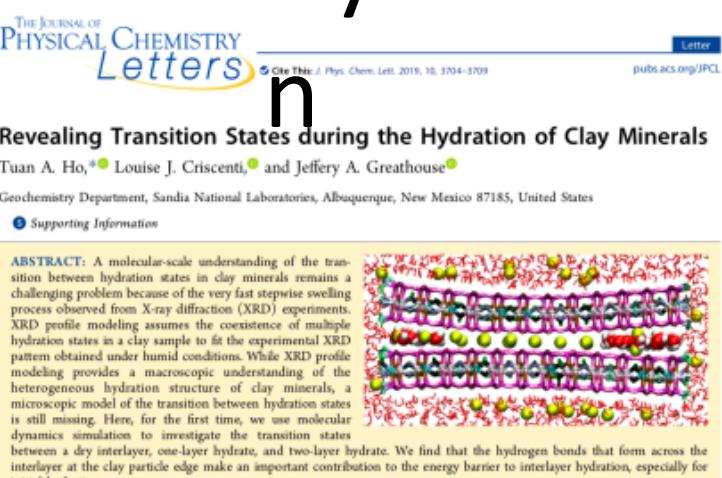
Introduction

Increasing relative humidity (RH) →



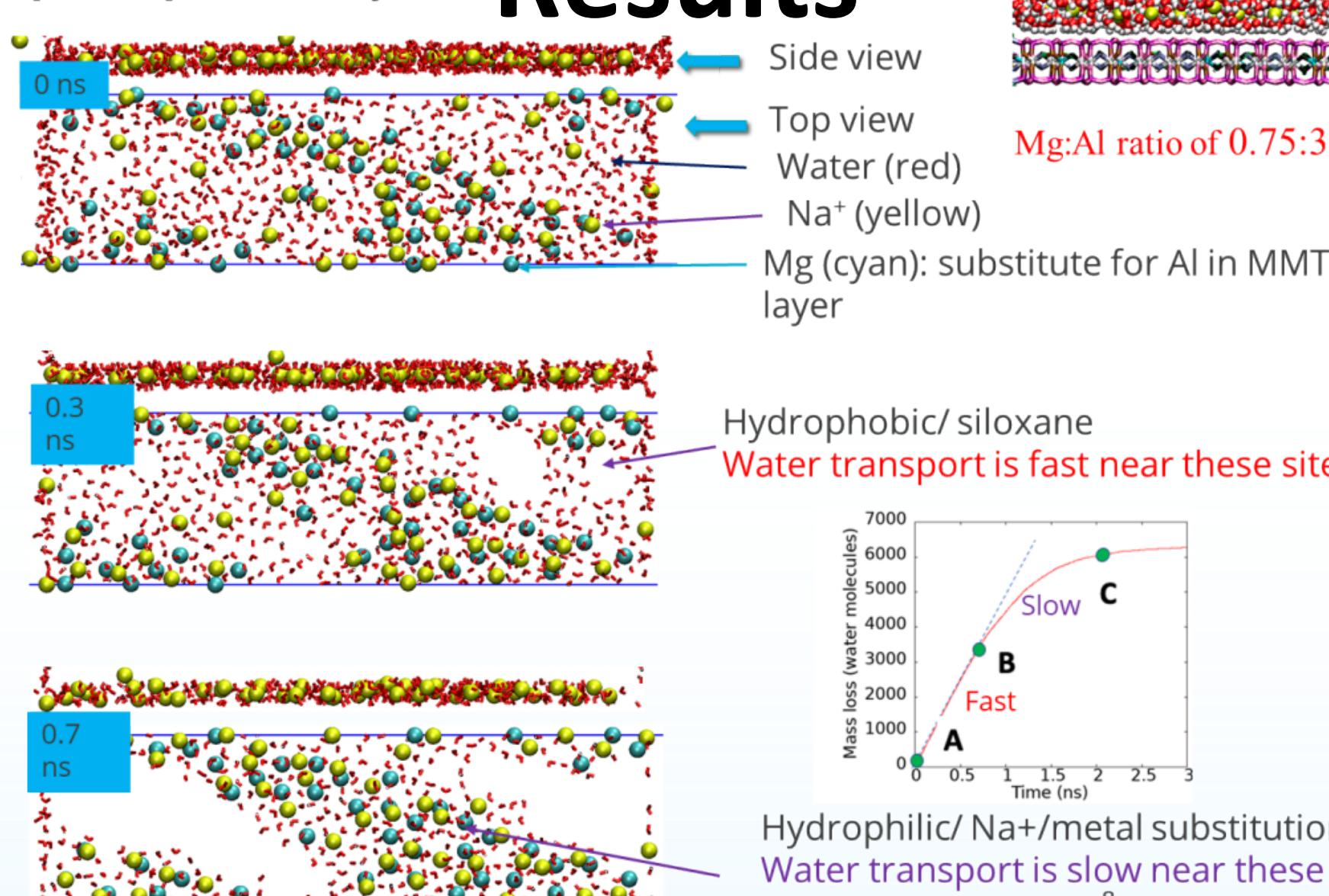
Method

Hydration

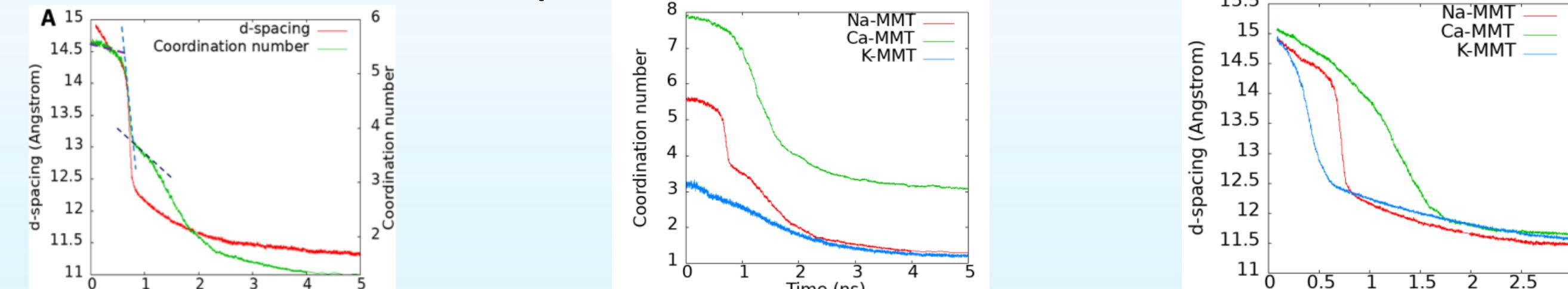


Transport pathway

Results

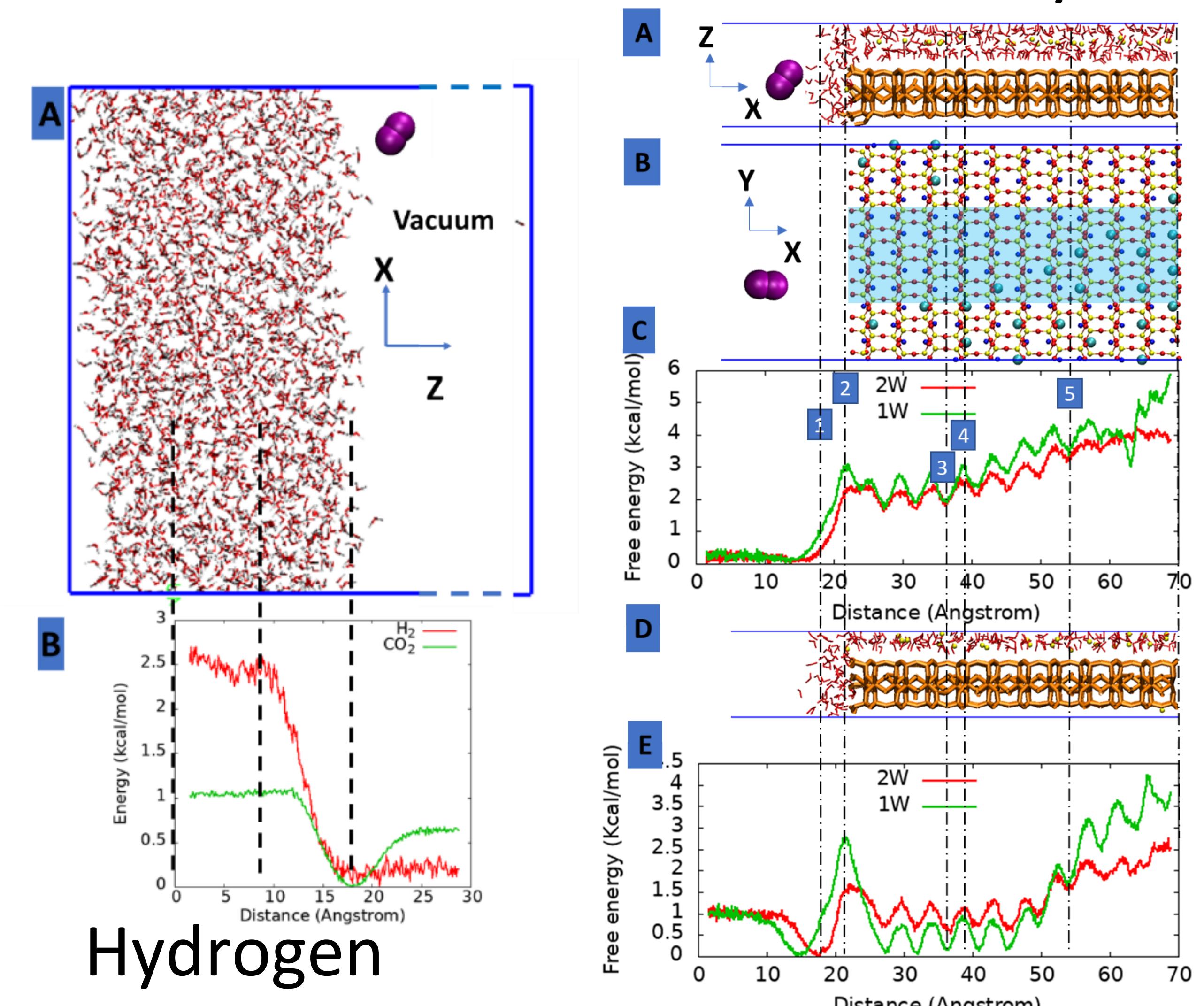


Chemo-mechanical coupling effect

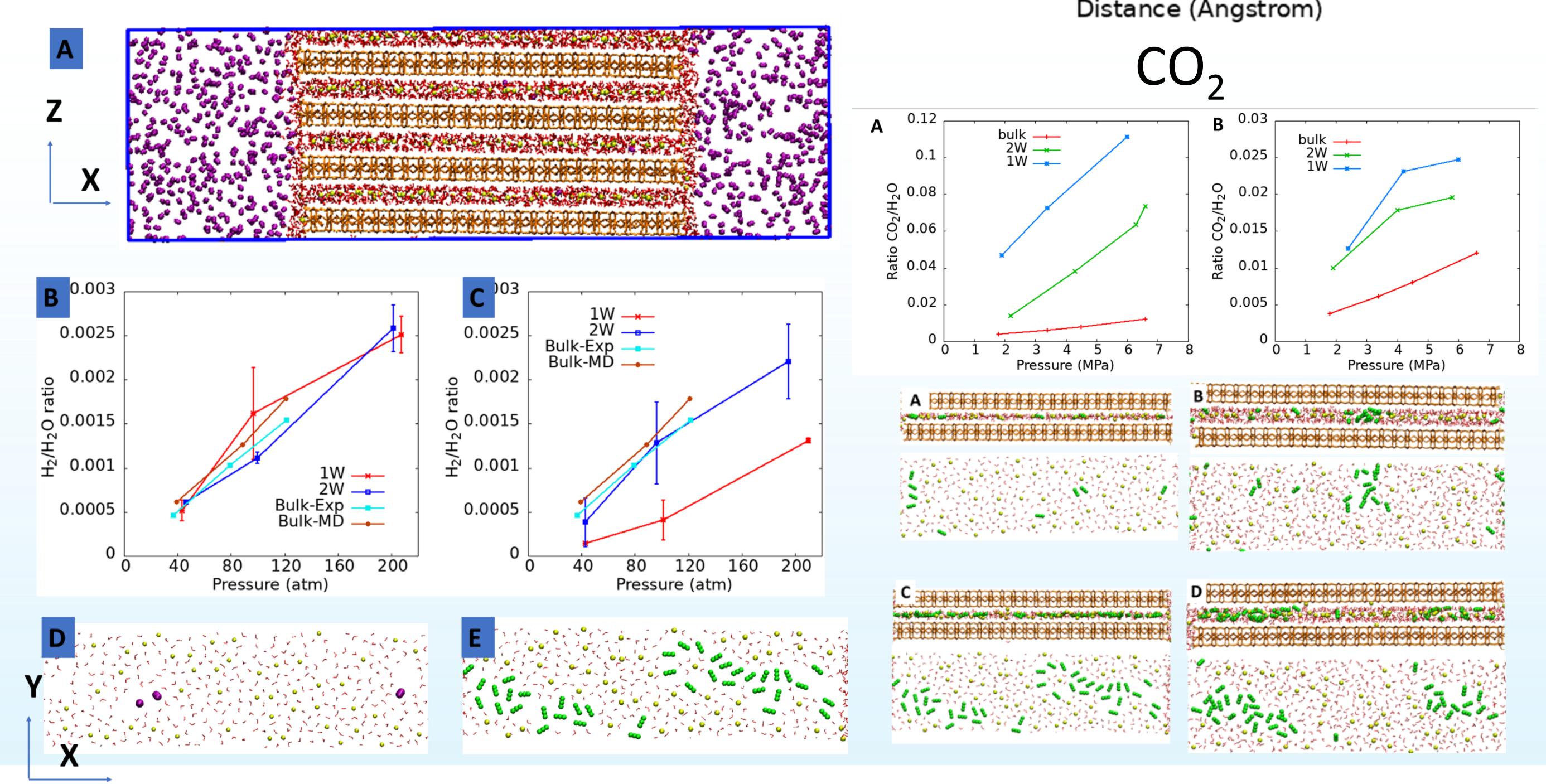


Gas intercalation into interlayers

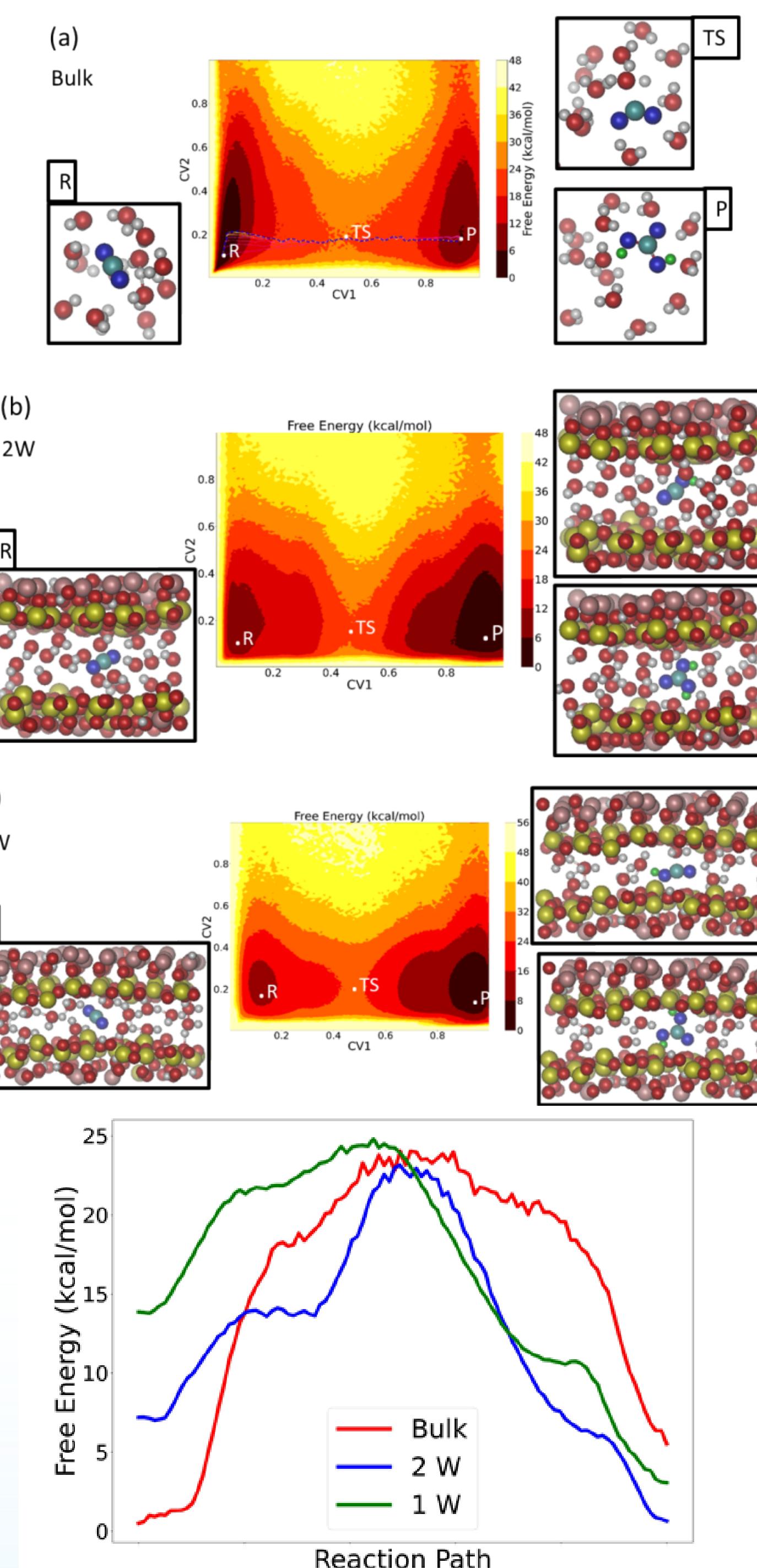
Bulk water



Hydrogen



CO₂ conversion to H₂CO₃ in nanopores



Acknowledgement

Collaborators:

Nabankur Dasgupta
Carlos Jove-colon
Susan Rempe
Yifeng Wang

Fundings:

SFWST, LDRD