

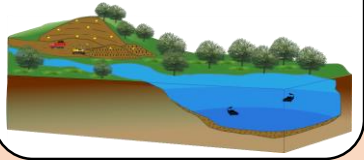
Simplified spectrophotometric acid-base titrations to assess organic matter reactivity

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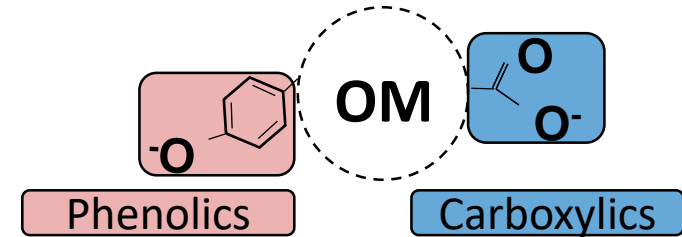
Introduction



Organic matter (OM) reactivity towards a mineral surface or metallic contaminant is driven by acid-base functional groups

Potentiometric titration is impossible to apply to environmental concentrations of OM → spectrophotometric method needed


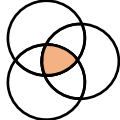

Korshin et al. 1997
Janot et al. 2010



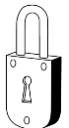
Challenge



Current spectrophotometric method :

-  - **Time consuming** data acquisition
-  - **Restrictive** data treatment
-  - **No estimation** for functional group concentration

Objective

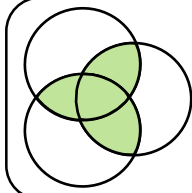


Simplify and optimize functional groups characterization & quantification at environmentally relevant OM concentrations

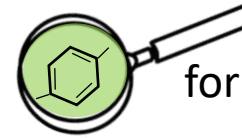
Our simplified spectroscopic method



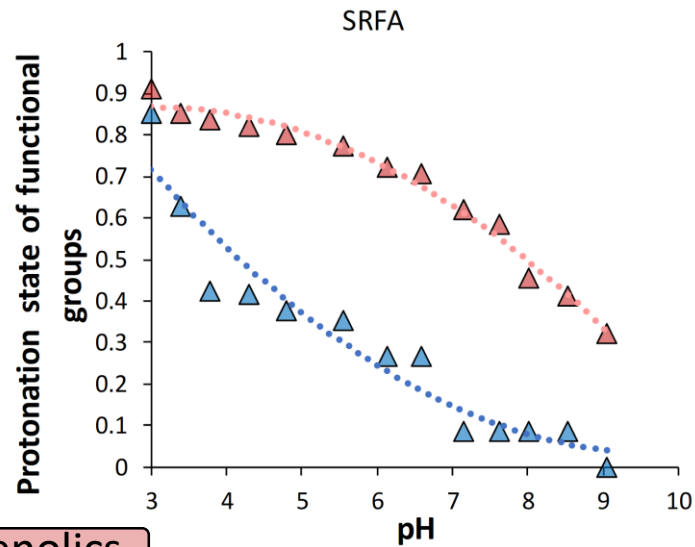
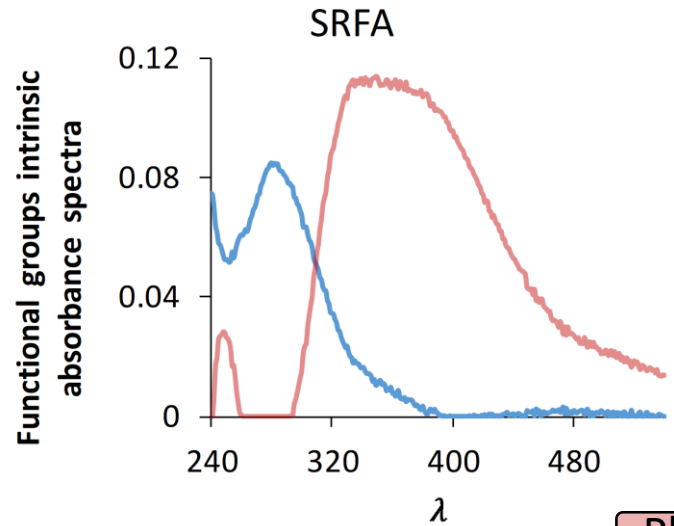
Faster
data acquisition



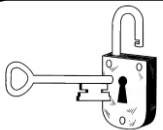
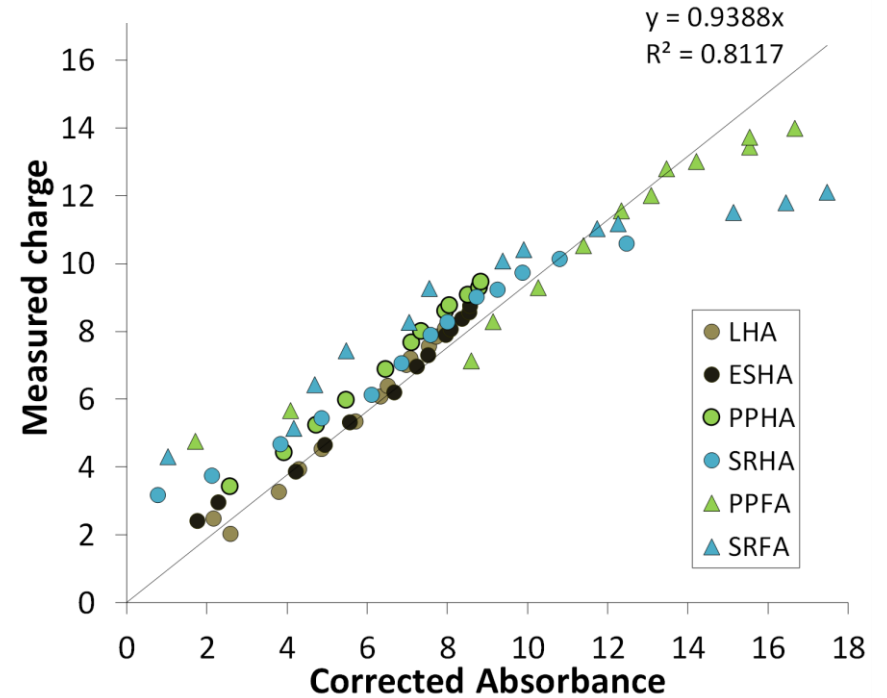
More inclusive
data treatment



Estimation
for functional group concentrations



Phenolics
Carboxylics



Better understanding of OM reactivity towards mineral surfaces or metallic contaminants