

Supporting Information

Title:

Probing Adsorption of Weak Acids on Graphite Using Amplitude Modulation-Frequency Modulation Atomic Force Microscopy

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XPS analysis

The as received fresh peeled and treated HOPG were characterized away from the graphene steps to monitor the development of oxygenated groups at a depth = 2–5 mm. The analytical chamber was sustained under 3×10^{-8} Pa and a monochromatic Al K α source ($h\nu = 1486.6$ eV) was used at 210 W, while survey scans were collected for binding energies from 1100 to 0 eV with analyzer pass energy of 160 eV and a step of 0.4 eV. For high-resolution spectra, pass energy was 20 eV with a 0.1 eV step with no charge neutralization required for conducting samples.

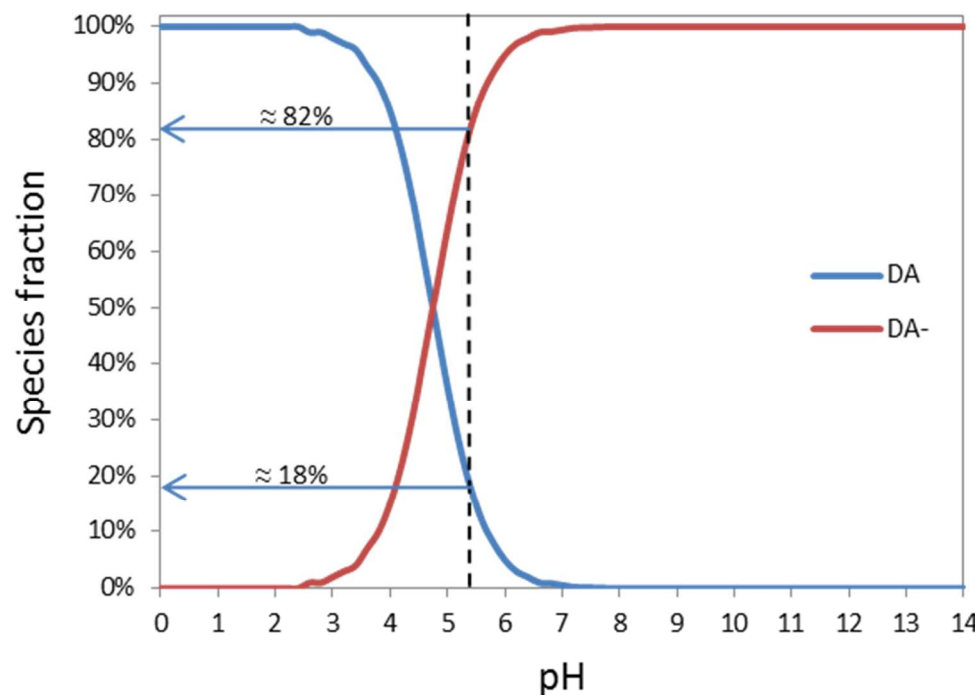


Figure S1. Speciation diagram for decanoic acid (according to the online SPARC software (<http://archemcalc.com/sparc/index>; accessed January 17th, 2014))

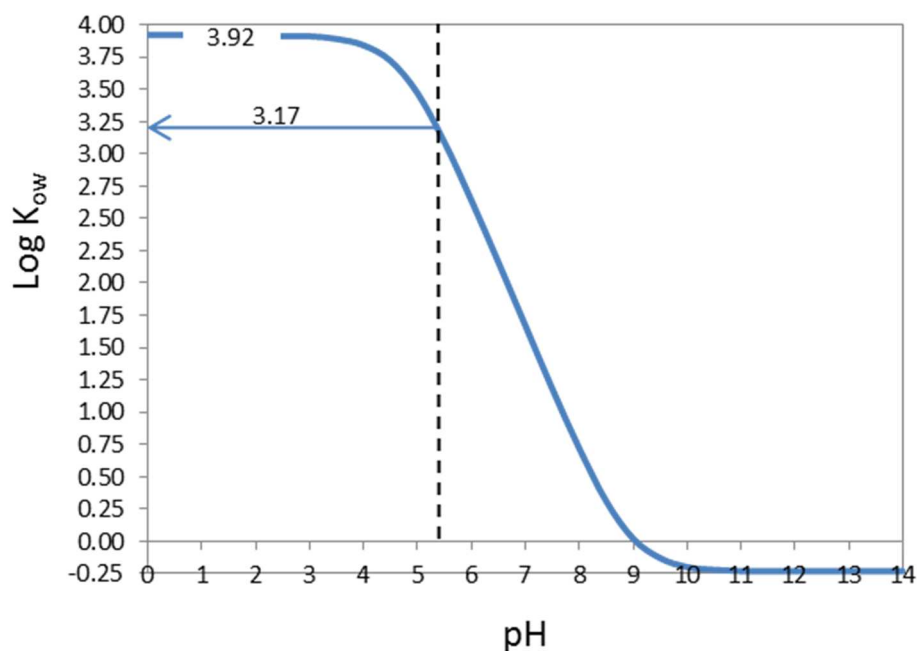


Figure S2. Log K_{ow} values for decanoic acid at different pH (according to the online SPARC software (<http://archemcalc.com/sparc/index>; accessed January 17th, 2014))