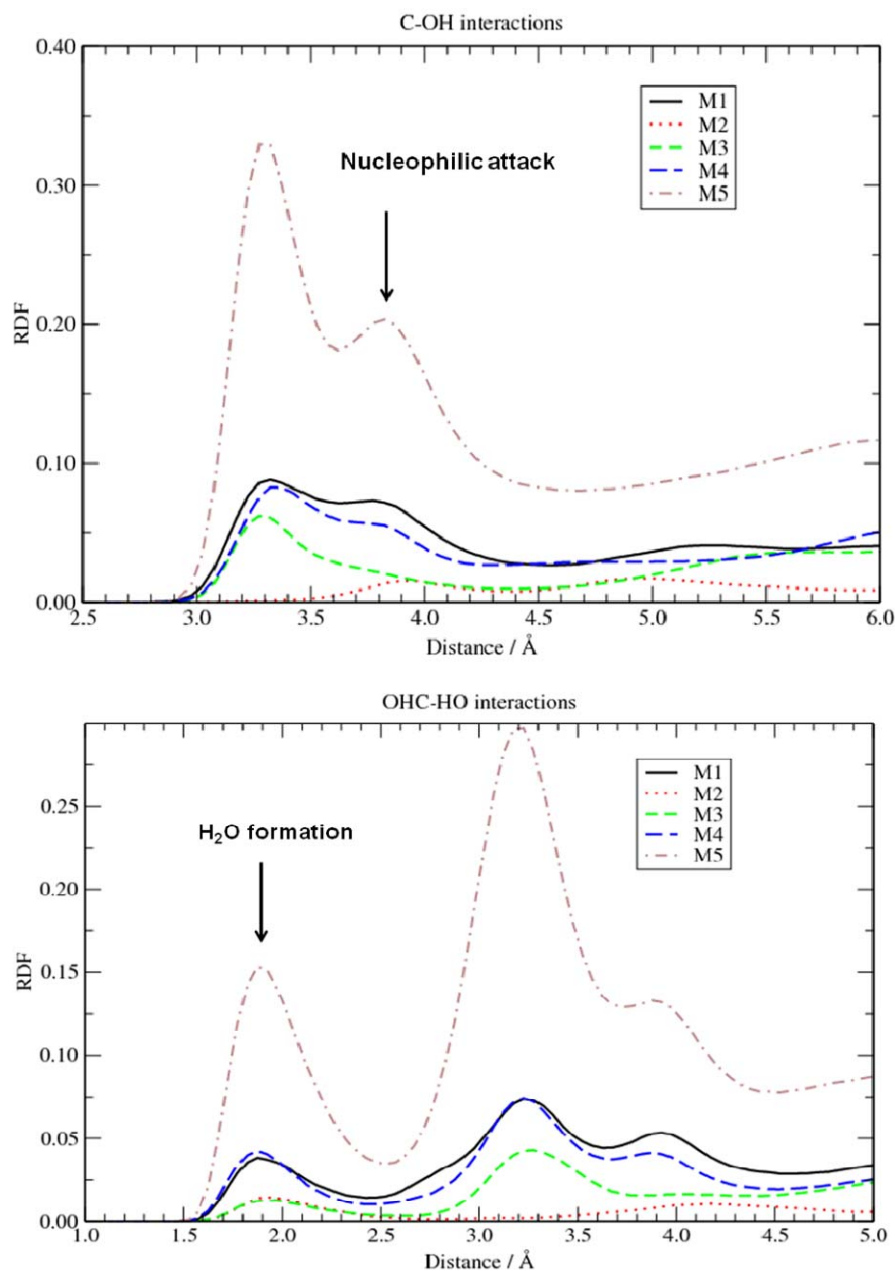


**Supplementary Material**

**Figure 1.** Radial distribution functions (RDFs) relative to the interacting particles in the esterification reaction. Two distinct peaks are characteristic of this process. (Upper graph) One at 3.7 Å indicates the approaching distance between an oxygen atom (OH) in a hydroxyl group and a carbon atom (C) in a COOH group during the nucleophilic attack. (Lower graph) A second peak at 1.9 Å corresponds to the interaction between a hydrogen atom (HO) in the hydroxyl group and an oxygen (OHC) in the hydroxyl belonging to the -COOH group to form

one water molecule. Five different surface density values have been considered (M1-M5) from higher to lower values.

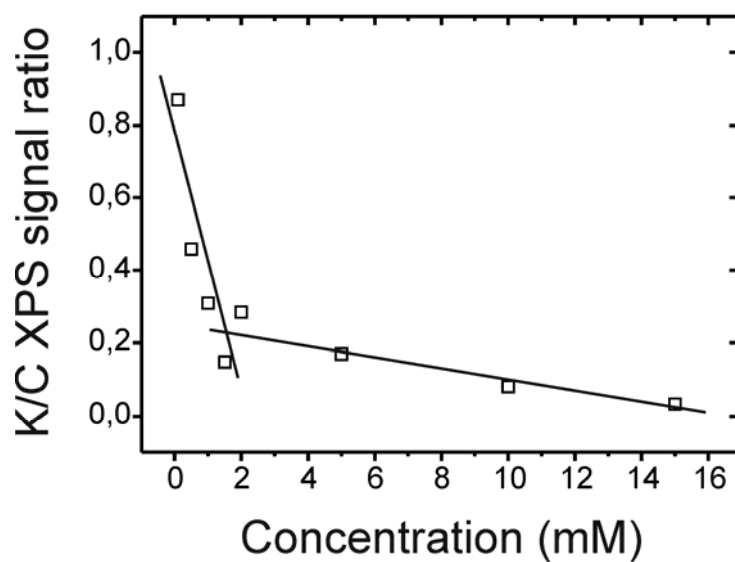


Figure 2. XPS K/C signal ratio evolution versus preparation solution concentration of 9(10),16-Dyhydroxypalmitic acid in chloroform. The break point indicates full monolayer formation on mica above 2 mM. This profile is considered as a reference for aleuritic acid behaviour based on the similarities between both molecules.