

SUPPORTING INFORMATION FOR:

**Solvent-mediated extraction of fatty acids in bilayer
oil paint models: a comparative analysis of solvent
application methods**

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Imaging ATR-FTIR: the formation of zinc soaps over time

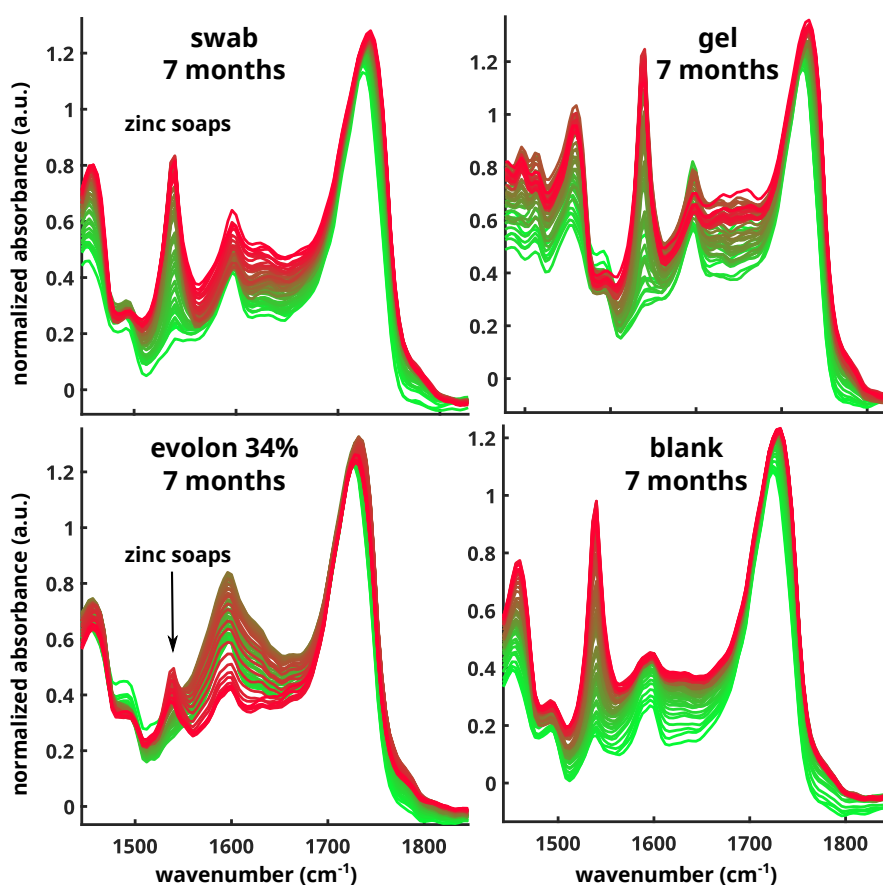


Figure 1 Ester band (1740 cm^{-1}) normalised imaging ATR-FTIR spectra of the **Znpol** layer in cross sections of swab and Evolon 34% samples after 5 min of ethanol exposure and a subsequent waiting time of 7 months. The blank was never exposed to ethanol. The layer was divided in 50 slabs and spectra were averaged over each slab, red corresponds to a region close to **pLOC₁₇**, green corresponds to the top of **Znpol** where ethanol was introduced. After 7 months, all samples show the formation of crystalline zinc soaps (1540 cm^{-1}).

Imaging ATR-FTIR: the formation of zinc soaps near the pLOC₁₇ interface

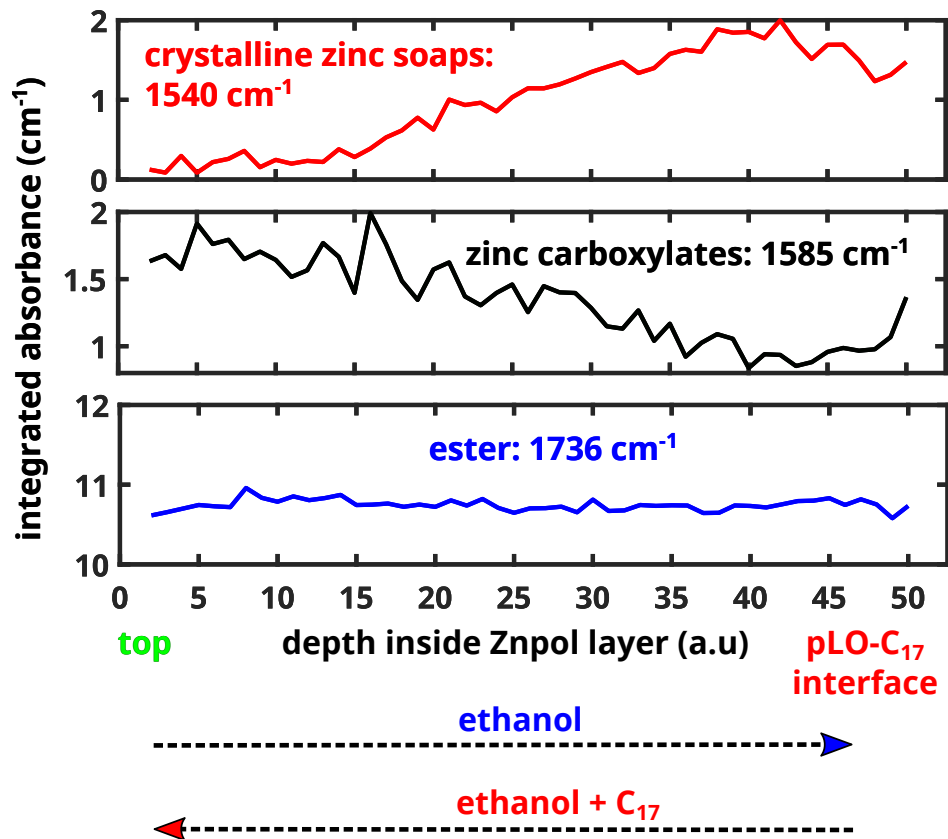


Figure 2 Integrated absorption values for ester band normalised imaging ATR-FTIR spectra inside the **Zn pol** layer after 30 min of ethanol exposure using Evolon-sq. The layer was divided in 50 slabs (slices), spectra were averaged over each slab and plotted as a function of depth (position inside the **Zn pol** layer). The region close to **pLOC₁₇** shows much more crystalline zinc soap formation compared to the top of **Zn pol** (where ethanol was introduced), showing that crystalline zinc soaps were formed with C₁₇ from the **pLOC₁₇** layer. It is clear from the anti-correlation that amorphous zinc carboxylates (1585 cm⁻¹) are converted into crystalline zinc soaps (1540 cm⁻¹).