

The deuterium NMR of Palmitic - D35 /Oleic acid

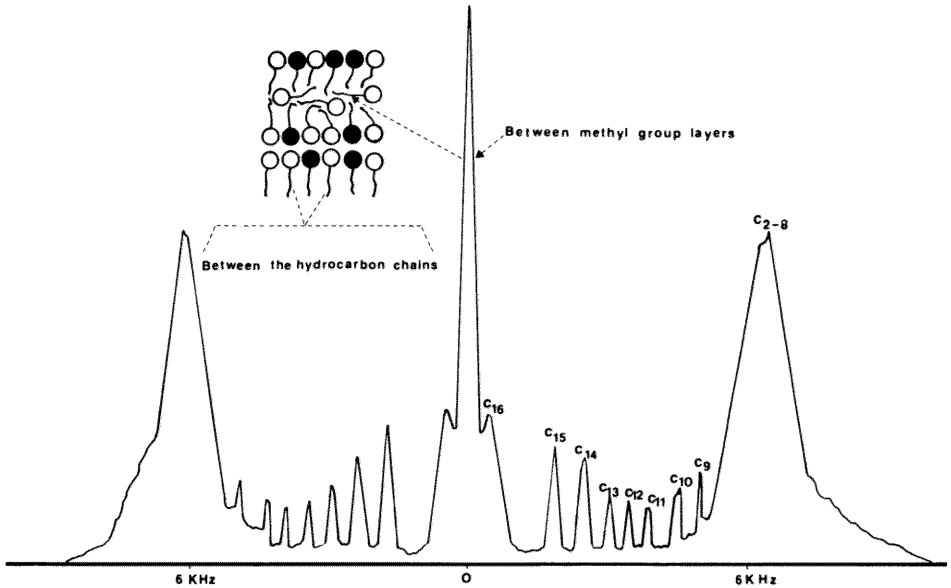


Figure 3.7 The NMR spectrum of perdeuterated palmitic acid added to the system oleic acid—sodium oleate.

tions of any lipid model combination, and we have recently applied it to lipid compounds by use of the following process: Fragments of stratum corneum, obtained either by scraping or from trypsinized skin obtained at autopsy, were lipid-depleted using chloroform/methanol (2:1 vol) and, subsequently, reduced to individual cells with a ground-glass homogenizer. These cells (about 20 mg) were suspended in ether and pipetted onto a phosphate-buffered solution film (pH 7.2) confined within a Teflon O-ring with 1.3 cm diameter. Lipid (1–5 mg in 10 ml ether) was then layered onto the cells, and the films were stored at 0°C for at least 12 hr, after which the reconstituted stratum corneum tablets were used in the permeability studies. The lipid model gave reconstituted stratum corneum tablets with sufficient mechanical properties to be used in the diffusion cell according to Blank (26).

These results, surprisingly, showed the lipid model to give fluxes through the tablet at the same level as the ones found for the extracted lipids (5). Table 2 shows the values from studies in which extracted stratum corneum cells from different persons were