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Heats of Dissolution of *n*-Fatty Acids in Ethanol*

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The heats of dissolution (ΔH_d) of B polymorph of tetradecanoic acid (C14), pentadecanoic acid (C15), hexadecanoic acid (C16), heptadecanoic acid (C17) and octadecanoic acid (C18) were measured at 310.15 K in ethanol using a calorimetric technique. In ethanol, no concentration dependence of ΔH_d was found within the concentration range of at least 1×10^{-3} — 2×10^{-2} mol dm⁻³. At a concentration of 1×10^{-2} mol dm⁻³, the values of ΔH_d were 60.6, 66.0, 69.4, 75.6 and 79.1 kJ mol⁻¹ for C14, C15, C16, C17 and C18, respectively. ΔH_d increased linearly by increasing the number of carbon atoms (*n*) in the fatty acid (FA), so that the (CH₂)-increment was obtained as 4.40 ± 0.10 kJ mol⁻¹.

ΔH_d was compared with the heats of fusion (ΔH_f). ΔH_d was higher than ΔH_f , and the difference between ΔH_d and ΔH_f for odd-numbered FA was larger than that for even-numbered FA. This is related to the phenomena that the plots of ΔH_f vs. *n* indicate a zig-zag pattern and those of ΔH_d vs. *n* indicate a single line pattern.

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