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

Shoko YOKOYAMA and Tadao FUJIE

## 横山祥子,藤江忠雄

The heats of dissolution  $(\varDelta H_d)$  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  $\varDelta H_d$  was found within the concentration range of at least  $1 \times 10^{-3} - 2 \times 10^{-2}$  mol dm<sup>-3</sup>. At a concentration of  $1 \times$  $10^{-2}$  mol dm<sup>-3</sup>, the values of  $\varDelta H_d$  were 60.6, 66.0, 69.4, 75.6 and 79.1 kJ mol<sup>-1</sup> for C14, C15, C16, C17 and C18, respectively.  $\varDelta H_d$  increased linearly by increasing the number of carbon atoms (*n*) in the fatty acid (FA), so that the (CH<sub>2</sub>)-increment was obtained as  $4.40\pm0.10$  kJ mol<sup>-1</sup>.

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

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