Title	Heats of dissolution of n-fatty acids in ethanol
Sub Title	
Author	横山, 祥子(Yokoyama, Shoko) 藤江, 忠雄(Fujie, Tadao)
Publisher	共立薬科大学
Publication year	1990
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.35 (1990.) ,p.76- 76
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000035-0076

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 (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 (CH_2)-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.

* 本報告は *Chem. Pharm. Bull.*, 38(9), 2347—2351 (1990) に発表.