Notes

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Kōno Kinoshita and Shoichi Nakajima: Studies on the Structure of Itaconitin. III.¹⁾ Identification of Organic Acids as *p*-Aminoazobenzene Derivatives. (2).

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With a view to determining the acids, obtained as the decomposition product from itaconitin derivatives, a new method for identification of fatty acids was devised as reported in the preceding paper.¹⁾ Attempt was made for the application of this method to other ordinary organic acids.

The reported procedure for preparing 4-aminoazobenzene derivatives was to heat the acids with 4-aminoazobenzene at various temperatures but this procedure was found not to be applicable to any kind of acid derivatives. The acids were therefore derived to acyl chlorides and reacted with 4-aminoazobenzene to form the objective derivatives. All the 4-aminoazobenzene derivatives prepared had a high melting point and orange color.

TABLE I.

4-Aminoazo- benzene N-acyl deriv.	m.p. (°C)	Appearance (Orange color)	Solvent of recrystn.	Mol. formula	Analysis (%)					
					Calcd.			Found		
					C	H	N	C	H	N
Isovaleryl	179	needles	benzene-petr. benzine	C ₁₇ H ₁₉ ON ₃	72.57	6.81	14.94	72.02	6.62	14.90
Monochloroacetyl	155	plates	benzene	C ₁₄ H ₁₂ ON ₃ Cl	61.43	4.42	15.32	61.66	4.45	15.53
Dichloroacetyl	177	prisms	petr. benzine	C ₁₄ H ₁₁ ON ₃ Cl ₂	54.58	3.60	13.65	54.34	3.49	13.64
Lauroyl	124	plates	Me ₂ CO	C ₂₄ H ₃₃ ON ₃	75.95	8.76	11.07	75.91	8.40	11.29
Benzoyl	205	"	"	C ₁₉ H ₁₀ ON ₃	75.73	5.12	13.73	76.11	5.02	13.95
Cinnamoyl	191	"	EtOH	C ₂₁ H ₁₇ ON ₃	77.04	4.90	12.54	76.95	5.23	12.84
<i>p</i> -Nitrobenzoyl	275	needles	Me ₂ CO	C ₁₉ H ₉ O ₃ N ₄	65.89	4.07	16.18	65.80	3.94	16.24
Benziloyl	195	rhombic crystals	petr. benzine	C ₂₆ H ₂₁ O ₂ N ₃	76.64	5.20	10.31	77.04	5.36	10.26
Diphenylacetyl	200	needles	"	C ₂₆ H ₂₁ ON ₃	79.77	5.41	10.74	79.37	5.59	10.69
Nicotinoyl	205	plates	EtOH	C ₁₈ H ₁₄ ON ₄	71.51	4.67	18.53	71.27	4.65	18.66
Isonicotinoyl	239	"	"	C ₁₈ H ₁₄ ON ₄	71.51	4.67	18.53	70.76	4.80	18.61

Experimental*²

Preparation of 4-Aminoazobenzene Derivatives of Organic Acids—Each acid was dissolved in 5 parts of SOCl₂ and boiled for 0.5 hr. After the reaction, excess SOCl₂ was removed in vacuum and Me₂CO solution of 4-aminoazobenzene was added to the reaction product. After boiling this mixture for 30 min., the solvent was evaporated to leave a crystalline brei of crude 4-aminoazobenzene derivative, which was recrystallized from the solvent specified in Table I. In some cases alumina column was used for purification of the product.

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Summary

Some 4-acylaminoazobenzenes, the colored derivatives of organic acids, were made further for the purpose of the identification of the acids. The preparation procedure was somewhat modified.

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