

TABLE I.—COMPARISON OF MELTING POINTS

Parent Compound	M.p., ° C.	Vinyl Compound	M.p., ° C. ^a
<i>p</i> -Nitrobenzoylglutamic acid	112.5 to 113.5	<i>p</i> -Nitrocinnamoylglutamic acid	205–207
Diethyl <i>p</i> -nitrobenzoylglutamate	96	Diethyl <i>p</i> -nitrocinnamoylglutamate	97–99
<i>p</i> -Aminobenzoylglutamic acid	172–173	<i>p</i> -Aminocinnamoylglutamic acid	193.8 to 196.6
Diethyl <i>p</i> -aminobenzoylglutamate	143–144	Diethyl <i>p</i> -aminocinnamoylglutamate	115.5 to 117

^a Melting points are corrected.

mixture of 20 Gm. (0.103 mole) of *p*-nitrocinnamic acid in 1 L. of diglyme there was gradually added 10.4 Gm. (0.103 mole) of triethylamine. The resulting solution was maintained at 0–5° during the addition of 13 Gm. (0.128 mole) of ethyl chloroformate. After the mixture had been maintained at 0° for 30 minutes there was added 20.0 Gm. (0.146 mole) of diethyl DL-glutamate dissolved in 100 ml. of diglyme; the temperature was maintained at 0 to 5°. The contents of the reaction vessel were allowed to warm to room temperature (32°) and stirred at that temperature for 6 hours. A white crystalline material (triethylamine hydrochloride) was collected by filtration. The yellow solution was allowed to stand overnight at room temperature. Five-hundred milliliters of distilled water was then added to this yellow solution, followed by the addition of chipped ice until precipitation was complete. There was obtained 25.7 Gm. (66.0%) of diethyl *p*-nitrocinnamoyl-DL-glutamate. After recrystallization to analytical purity from an ethanol-water solution, a m.p. of 97–99° was observed.

Anal.—Calcd. for C₁₈H₂₂N₂O₇: C, 57.14; H, 5.82; N, 7.14. Found: C, 57.32; H, 5.60; N, 7.46.

Diethyl *p*-Aminocinnamoyl-DL-glutamate.—Ten grams (0.026 mole) of diethyl *p*-nitrocinnamoyl-DL-glutamate was suspended in 50 ml. of absolute ethanol in a pressure bottle and approximately 1 to 1.5 Gm. (wet wt.) of Sponge Nickel Catalyst¹ was added. The bottle was flushed with hydrogen and then shaken mechanically until the rate of hydrogen uptake had decreased tenfold (approx. 24 hours). The catalyst was filtered off and ice-water added to the filtrate. Upon chilling, a pale yellow solid formed. The product obtained in yields of 64–77% melted in the range of 115.5 to 117°.

Anal.—Calcd. for C₁₈H₂₄N₂O₅: C, 62.06; H,

6.90; N, 8.05. Found: 62.16; H, 7.12; N, 8.05.

***p*-Aminocinnamoyl-DL-glutamic Acid.**—One gram (0.003 mole) of diethyl *p*-aminocinnamoyl-DL-glutamate was suspended in 25 ml. of 1 *N* NaOH and stirred overnight at room temperature. The resulting solution was chilled and acidified to pH 3–4 with concentrated hydrochloric acid. A cloudy solution resulted but no precipitation occurred. To this solution was added about 1 Gm. of sodium chloride. Upon stirring, a yellow-brown solid appeared. This material was collected on a sintered-glass filter-funnel. Recrystallization from hot water to which a few milliliters of ethanol were added gave a yellow product. This material was observed to melt in the range of 193.8 to 196.6°.

Anal.—Calcd. for C₁₄H₁₆N₂O₅: C, 57.53; H, 5.53; N, 9.58. Found: C, 57.54; H, 5.57; N, 9.38.

The presence of a dicarboxylic acid was also confirmed by the determination of its neutralization equivalent.

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ERRATUM

In the paper titled "Chromatography and Electrophoresis of Phenothiazine Drugs" (1), the last sentence of paragraph two under *Methods* on page 1169 should be changed to read: "The dissolved substances were applied in amounts of 5 to 10 mcg. . . ." Additionally, the last clause of the last sentence of the first full paragraph on page 1170 should be changed to read: ". . . , when concentrations over 10 mcg. per spot were applied."

(1) Mellinger, T. J., and Keeler, C. E., *THIS JOURNAL*, **51**, 1169 (1962).