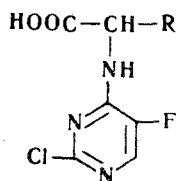


SYNTHESIS OF N - (2-CHLORO-5-FLUOROPYRIMIDYL-4) AMINO ACIDS

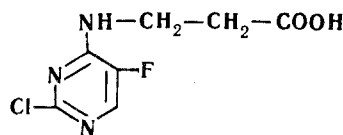
R. A. Paegle, M. G. Plata, and M. Yu. Lidak

Khimiya Geterotsiklicheskikh Soedinenii, Vol. 2, No. 3, pp. 475-476, 1966

Hitherto, only a few N-(5-fluoropyrimidyl) amino acids have been known [1]. We have now prepared hitherto unknown N-(2-chloro-5-fluoropyrimidyl-4) amino acids (I-VII) by reacting a 2,4-dichloro-5-fluoroacyl with amino acids.

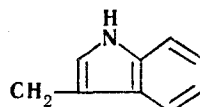


I-VI



VII

R=H (I), CH(CH₃)₂ (II), CH₂CH(CH₃)₂ (III), CH₂CH₂SCH₃ (IV), CH₂C₆H₅ (V),



(VI)

I-VII are colorless crystalline compounds. Their physical constant, analytical data for them, and yields, are given in the table.

N-(2-Chloro-5-fluoropyrimidyl-4) amino Acids

Compound No.	Mp °C	Formula	Found, %			Calculated, %			R _f in the system		Yield, %
			C	H	N	C	H	N	<i>n</i> -C ₄ H ₉ OH-CH ₃ CO ₂ H-H ₂ O 4:1:5	<i>iso</i> -C ₃ H ₇ OH-NH ₄ OH-H ₂ O 14:1:5	
I 169		C ₆ H ₅ Cl ₁ F ₁ N ₃ O ₂	35.14	2.86	20.42	35.03	2.48	20.43	0.87*	0.71	85
II 179		C ₉ H ₁₁ Cl ₁ F ₁ N ₃ O ₂	44.07	4.73	17.72	43.63	4.44	17.72	0.85	0.90	80
III 173		C ₁₀ H ₁₃ Cl ₁ F ₁ N ₃ O ₂	46.10	5.25	16.27	45.88	4.97	16.06	0.94	0.86	84
IV 159		C ₉ H ₁₁ Cl ₁ F ₁ N ₃ O ₂ S ₁	38.33	4.35	14.75	38.64	3.93	15.02	0.93	0.81	66
V 171		C ₁₃ H ₁₁ Cl ₁ F ₁ N ₃ O ₂	52.50	4.08	14.43	52.78	3.72	14.21	0.93	0.80	79
VI 182		C ₁₅ H ₁₂ Cl ₁ F ₁ N ₄ O ₂	53.95	3.81	16.48	53.81	3.58	16.74	0.90	0.77	61
VII 132		C ₇ H ₇ Cl ₁ F ₁ N ₃ O ₂	38.22	3.36	19.47	38.30	3.15	19.18	0.88	0.73	52

* *n*-C₄H₉OH-CH₃CO₂H-H₂O = 9:1:1.

The chemical and biological properties of I-VII are under investigation.

REFERENCE

1. T. Ueda and J. J. Fox, J. Med. Chem., 6, 697, 1963.