SYNTHESIS AND ACID BASE PROPERTIES OF 4,5-DIMETHOXY–N-PHENYLANTHRANILIC ACIDS IN BINARY SOLVENT DIOXANE – WATER

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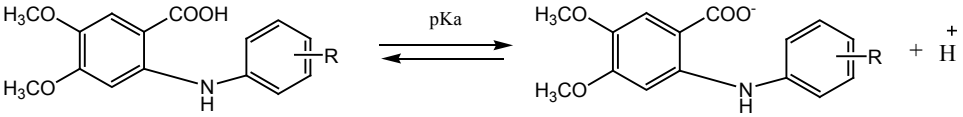
The derivatives of N-phenylanthranilic acids make up a promising group for the search of new biologically active compounds. The substances with high anti-inflammatory, analgesic and diuretic activity were found among these compounds. 4,5-Dimethoxy- N-phenylanthranilic acids were prepared according to the Ulman's reaction by reacting of 4,5-dimethoxy-2-chlorobenzoic acid with aromatic amines in the solid phase without a solvent in the presence of a copper catalyst and potassium carbonate.

Ionization constants of the acids were determined by potentiometric titration in the binary dioxane – water solutions (60 vol/% of dioxan) at 25 °C:



Isonization pKa of the derivatives of 4,5-dimethoxy-N-phenylanthranilic acids in binary solutions of dioxane and water at 25 °C

N	R	Output,%	pKa
1	H	92	7,44±0,03
2	2'-CH_3	94	7,56±0,02
3	4'-CH_3	95	7,58±0,03
4	3',4'-$(CH_3)_2$	95	7,61±0,04
5	4'-OCH_3	90	7,63±0,02
6	4'-OC_2H_5	94	7,65±0,02
7	4'-OC_3H_7	92	7,67±0,02
8	4'-Cl	93	7,27±0,02
9	4'-Br	96	7,28±0,03

The influence of the substituent's nature and position in the non-anthranilic fragments of N-phenylanthranilic acids on their pKa has been analyzed.