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Solubility and distribution of bicycle derivatives of 1,3-selenazine in pharmaceutically relevant media by saturation shake-flask method

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ABSTRACT

Three biologically active selenium bicyclic compounds – N-aryl-(3-selenoazabicyclo[3.3.1]non-2-ylidene)amines were synthesized. The effect of the substances structure on their protolytic properties was investigated. The substance solubility in hexane and pharmaceutically relevant buffer solutions (pH 2.0 and pH 7.4) was measured in the temperature range of 293.15 - 313.15 K by the saturation shake-flask method. Temperature dependences of the distribution coefficients of the compounds in the two-phase systems “organic solvent (octanol, hexane)/buffer solution” were obtained. Thermodynamic parameters of distribution process were calculated.

Keywords: biologically active compounds, solubility, protolytic properties, distribution, thermodynamics

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