Lesson 1. Biopharmaceutical classification system (BCS).

1. The solubility of ibuprofen in an acetate buffer solution (pH 4.5) obtained by shaking in a full flask for 24 hours at 37°C) is 0.084 mg / ml, and the maximum dose registered in the Russian Federation is 400 mg. How can the solubility of ibuprofen in an acetate buffer be characterized?
2. There are data in the literature on the solubility of ketoprofen in water at room temperature (0.010 mg / ml), as well as at 37 ° C in solutions with a pH value of 1.2 (0.13 mg / ml), pH 4.6 (0 .49 mg/ml) and pH 6.8 (40.76 mg/ml). The maximum dosage of ketoprofen in immediate release dosage forms for internal use, registered for medical use in the Russian Federation, is 100 mg. Determine the solubility of ketoprofen in the physiological pH range.
3. Distribute the API according to the BCS and BDDCS classification:
   Amlodipine has high solubility in physiological environments of the gastrointestinal tract, high permeability and intensive metabolism, lincomycin - low permeability, high solubility, weak metabolism, warfarin - dose number 2.2, high permeability, intensive metabolism, vancomycin - dose number 0.02, low permeability , weak metabolism, theophylline - dose number 0.3, high permeability, intensive metabolism, roxithromycin - dose number 12, low permeability, weak metabolism, pilocarpine - high permeability, high solubility, intensive metabolism, nystatin - dose number 0.2, low permeability, poor metabolism, digoxin - dose number 0.001, low permeability, weak metabolism, ampicillin - dose number 0.3, low permeability, low metabolism, capsaicin - dose number 12, high permeability, intensive metabolism, folic acid - dose number 13, high permeability, intensive metabolism, melatonin - dose number 0.2, high permeability, intensive metabolism.