Reception of New Biologically Active Substances on the Basis of Curcumin

Mikadze, Grigol (School: Vazha-Pshavela #87 Public School)
Mikadze, Tsotne (School: Vazha-Pshavela #87 Public School)
Buskandze, Luka (School: Vazha-Pshavela #87 Public School)

The reception of new biologically active substances on the basis of Curcumin is a research work about the synthesis of unknown for scientific literature, improved property-having biologically active substances, based on the principle of synergism. Curcumin is a phenolic compound (composition 2%) of the plant-Curcuma Longa, spread in nature which was used as an antiseptic, anti-inflammatory, anti-inflammatory preparation in Ayurvedic medicine. Today it is known for its high activity in the treatment of oncological, cardiovascular, renal inflammatory diseases. Besides, it has antibacterial, antioxidant, insecticidal and antimicrobial activity, but its practical use is prevented by practical insolubility of Curcumin in water. That is why we aimed to get soluble curcumin in water and study its biological activity. For this purpose, we studied the possibility of glicolization of Curcumin and we got mono- and diglucoside of the curcumin. Based on Acetylaceston group in the molecule, we did the trial and got so called Schiff bases, new heterocyclic compounds and studied their both antibacterial activity with Shiff complexes and bio inorganic microelements. We have conducted the studies of all synthesized materials IR-(infrared), UV(ultraviolet)-HPLC (high pressure liquid Chromatography) MS-MS(mas-spectrometry-mas- spectrometry), Nuclear-Magnetic- Resonance (1H and 13C nuclears). The structure of all the accepted substances is clearly defined.