

## Syntheses some of nitrogen containing adamantane line derivatives and study their bioactivity.

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By the search of new bioactive compounds were carried out syntheses of adamantane line some alicyclic and heterocyclic derivatives.

- The syntheses methods of 2-(1-adamantyl)benzimidazole and 5(6)-(1-adamantyl)benzimidazoles derivatives were worked-up. The optimal condition of the reaction were proved.
- By the N-adamantoylation of aminobenzene derivatives, their nitration, reduction and cyclization was obtained corresponding benzimidazoles.
- The syntheses of adamantane line acylaminoacids were carried out on the area of electrophilic via the reaction of Ritter and corresponding amino acids were given by the hydrolysis of obtained compounds.
- The synthesis of adamantane fragment containing dipeptids were carried out via Ugi- reaction on the base of isocyanides.
- By the testing result for 36 compounds in U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) were shown 1) Antiviral activity (*Ebola*, *Marburg*, *VEE*, *EEE*, *RVFV*, *CCHF*, MIC=20  $\mu$ M) – for 15 compounds; 2) Antibacterial activity (*S. aureus*, *MRSA*, *B. anthracis* (*Ames*), *B. anthracis* (*Sterne*), *M. smegmatis*, *F. tularensis* (*Schu4*), *F. novicida*, MIC=0.6  $\mu$ M-20  $\mu$ M) – for 11 compounds, also between them are such compounds, which inhibited 5 dangerous viral infection and 7 microbial infection
- The interaction analysis between the structure and bioactivity were carried out.