SUSTAINABLE MOLECULAR PLATFORMS BASED ON L-PHENYLALANINE DERIVATIVES: FROM IONIC LIQUIDS TO SYSTEMS FOR BIOMEDICAL APPLICATIONS

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Amino acids offer a sustainable biobased alternative for chemical design, providing renewable building blocks that align with Green chemistry principles. By embracing a benign-by-design approach, amino acids can be tailored to fulfill specific functionalities, ensuring environmentally conscious solutions.

Using L-phenylalanine-based molecular platform (Fig. 1) a variety of systems has been developed with focus on their sustainability.

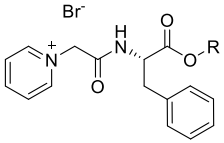

Fig. 1. L-phenylalanine-based molecular platform

Consistent modification and complication of these systems (Fig. 2), performed based on an understanding of the structure-properties relationships [1] made it possible to create new sustainable materials for:

- extraction of polycyclic aromatic hydrocarbons [2];
- organophosphorous neurotoxins decomposition [3];
- detection of pharmaceutical products in solutions [4];
- acetylcholinesterase reactivators [5].

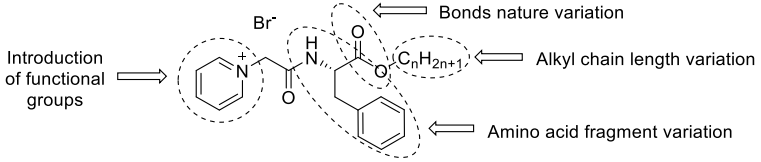

Fig. 2. Ways of structural modification of L-phenylalanine-based molecular platform

References

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