

- [12] Eisenmesser E Z, Millet O, Labeikovsky W, Korzhnev D M, Wolf-Watz M, Bosco D A, Skalicky J J, Kay L E, Kern D. (2005) Intrinsic dynamics of an enzyme underlies catalysis, *Nature*, 438: 117-121. DOI: 10.1038/nature04105 (in Eng)
- [13] Wang W, Liang A D, Lippard S J. (2015) Coupling Oxygen Consumption with Hydrocarbon Oxidation in Bacterial Multicomponent Monooxygenases, *Accounts of Chemical Research*, 48: 2632-2639. DOI: 10.1021/acs.accounts.5b00312 (in Eng)
- [14] Lillerud K P, Olsbye U, Tilset M. (2010) Designing Heterogeneous Catalysts by Incorporating Enzyme-Like Functionalities into MOFs, *Topics in Catalysis*, 53: 859-868. DOI: 10.1007/s11244-010-9518-4 (in Eng)
- [15] Kung, H H, Kung M C. (2014) Inspiration from Nature for Heterogeneous Catalysis, *Catal Lett*, 144: 1643-1652. DOI: 10.1007/s10562-014-1341-2 (in Eng)
- [16] Silva A R, Mourao T, Rocha J. (2013) Oxidation of cyclohexane by transition-metal complexes with biomimetic ligands, *Catal Today*, 203:81-86. DOI: 10.1016/j.cattod.2012.07.043 (in Eng)
- [17] Huang G, Liu Y, Cai J L, Chen X F, Zhao S K, Guo Y A, Wei S J, Li X. (2017) Heterogeneous biomimetic catalysis using iron porphyrin for cyclohexane oxidation promoted by chitosan, *Applied Surface Science*, 402: 436-443. DOI: 10.1016/j.apsusc.2017.01.082 (in Eng)
- [18] Antonangelo A R, Bezzu C G, Mughal S S, Malewschik T, McKeown N B, Nakagaki S. (2017) A porphyrin-based microporous network polymer that acts as an efficient catalyst for cyclooctene and cyclohexane oxidation under mild conditions, *Catal Comm*, 99: 100-104. DOI: 10.1016/j.catcom.2017.05.024 (in Eng)
- [19] Talgatov E T, Auyezkhanova A S., Tumabayev N Z, Akhmetova S N, Seitkalieva K S, Begmat Y A, Zharmagambetova A K. (2018) Polymer-palladium catalysts on magnetic support for hydrogenation of phenylacetylene, *News of the NAS RK. Series of chemistry and technology*, 6:29-37. DOI: 10.32014/2018.2518-1491.23 (in Eng)
- [20] Karasevich E I, Karasevich Y K. (2000) Mechanism of cyclohexane oxidation by molecular oxygen in the biomimetic iron porphyrin system with proton and electron donors: I. A radical pathway, *Kinetics and Catalysis*, 41: 485-491. DOI: 10.1007/BF02756064 (in Eng)
- [21] Karasevich E I, Karasevich Y K, (2002) Oxidation of cycloalkanes by hydrogen peroxide in a biomimetic iron porphyrin system, *Kinetics and Catalysis*, 43: 19-28. DOI: 10.1023/A:1014284609614 (in Eng)
- [22] Zharmagambetova A K, Auyezkhanova A S, Akhmetova S N, Jardimalieva G I. (2017) Oxidation of cyclohexane and n-octane to ketones and alcohols under mild conditions, *News of the National Academy of Sciences of the Republic of Kazakhstan – Series Chemistry and Technology*, 6: 75-80. (in Eng)
- [23] Sidelkovskaya F P. (1970) Chemistry of N-vinylpyrrolidone and its polymers. Nauka, Moscow, USSR. (in Russian)
- [24] Haaf F, Sanner A, Straub F. (1985) Polymers of N-vinylpyrrolidone – synthesis, characterization and uses, *Polymer J*, 17: 143-152. DOI: 10.1295/polymj.17.143 (in Eng)