

the process under long-term operation of the catalyst, it is necessary to take into account the coke formation reaction in the conversion scheme.

Thus, to develop a formalized conversion scheme during the conversion of associated petroleum gas, the following reacting components were

identified: methane, ethane, ethene, propane, butane and the following types of reactions: hydrogen redistribution, dehydrogenation, dehydrocyclization, oligomerization, isomerization and alkylation, coke formation.

References

1. *Khusnutdinova R.R. // Materials of the scientific session of scientists of the Almet'yevsk State Oil Institute, 2015. – №1. – P.23–26.*
2. *Belinskaya N., Altynov A., Bogdanov I., Popok E., Kirgina M., Simakov D. // Energy & Fuels, 2019. – V.35(5). – P.4202–4210.*
3. *Lishchiner I.I., Malova O.V., Tarasov A.L. // Catalysis in Industry, 2018. – 18(5). – P.45–52.*

INVESTIGATION OF THE INTERACTION OF DIAZONIUM SALTS WITH ORGANOZINC REAGENTS

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Arendiazonium salts are one of the most widespread reagents in organic synthesis and the synthetic equivalent of CAr-electrophilic synthon [1]. Diazonium often act as “super electrophiles” in Pd-catalyzed transformations [2]. However, the reaction of diazonium salts with other types of C-nucleophiles, such as, Zn-organic reagents, not studied enough. In this paper, we tried to show this issue and to study the reaction of the interaction of diazonium salts with diethylzinc.

It has been found that arendiazonium tosylates smoothly react with diethylzinc at low temperatures. Nevertheless, the analysis of the products revealed the formation of a number of products of the hydrazine series (Fig. 1). Thus, at the moment, we are sure

that diazonium salts tend to react with organometallic reagents as N-centered electrophiles.

At the same time, the simplicity of the process and the possibility of producing hydrazines under mild conditions can expand the arsenal of methods for synthesizing hydrazines and also become the basis for the creation of new heterocyclization methods leading to the formation of valuable nitrogen heterocycles.

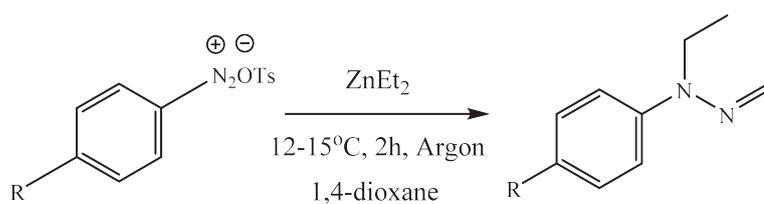


Fig. 1. The synthesis scheme of the interaction of arendiazonium tosylate and diethylzinc

References

1. *F.-X. Felpin et al, Chem. Eur. J., 2010. – 16. – 5191–5204.*
2. *M.E. Trusova et al, Org. Chem. Front., 2018. – 5. – 41.*