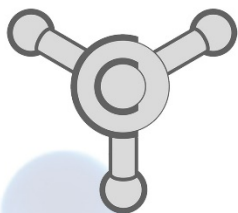


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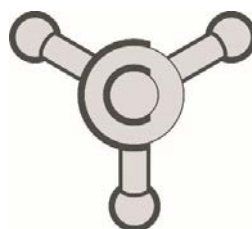
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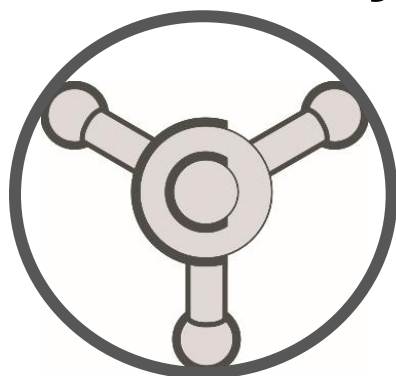
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**Klub mladih
hemičara Srbije**



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Preparation of zeolite from coal fly ash as waste raw material

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The zeolite from F class coal fly ash (FA) was prepared from alkali fused fly ash followed by hydrothermal treatment. Sodium water glass obtained from the calcined and acid activated FA and sodium aluminate were used in zeolitization. Hydrothermal reaction was performed at 90°C for 4h. The prepared zeolitic material was characterized by EDX, XRD, FT-IR and Hg-porosimetry. The concentrations of the main components SiO₂, Al₂O₃, and Na₂O in the synthesized material are: 51.45%, 30.01%, and 16.64%, respectively. The diffraction patterns show that the characteristics lines are at 14.4°, 20.5°, 25.5°, 32.7°, 39°, and 44.5° that are typical for Na-X zeolite. The FT-IR spectra show that the strongest vibration is at 960 cm⁻¹ (T-O stretch), whereas the vibrations in the region between 600 and 750 cm⁻¹ are related to tetrahedral atoms in zeolite structure [1, 2]. The Hg porosimetry measurements show that the porosity of obtained material is around 62% and the total pore volume is 1,10 cm³/g. Such characteristics of the prepared zeolitic material allow its use in various catalytic chemical processes for converting vegetable oil to biofuel including transesterification, deoxygenation, thermal cracking, catalytic cracking, and hydroprocessing.

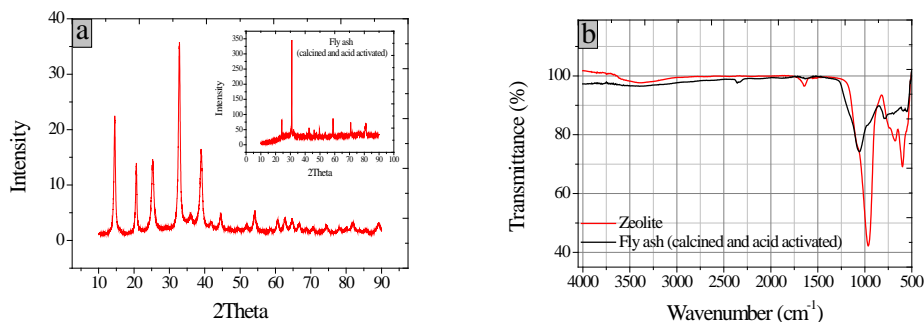


Figure 1. XRD pattern (a) and FT-IR spectra (b) of the prepared zeolite material and activated FA

References

1. C. Manique, L. Venturini Lacerda, A. Kopp Alves, C. Pérez Bergmann, *Fuel*, **2017**, *190*, 268.
2. O. Babajide, N. Musyoka, L. Petrik, F. Ameer, *Catal. Today*, **2012**, *190*, 54.

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