Nanocomposites and nanomaterials

Replacement of MWCNTs by graphene for ceria supported catalyst synthesis

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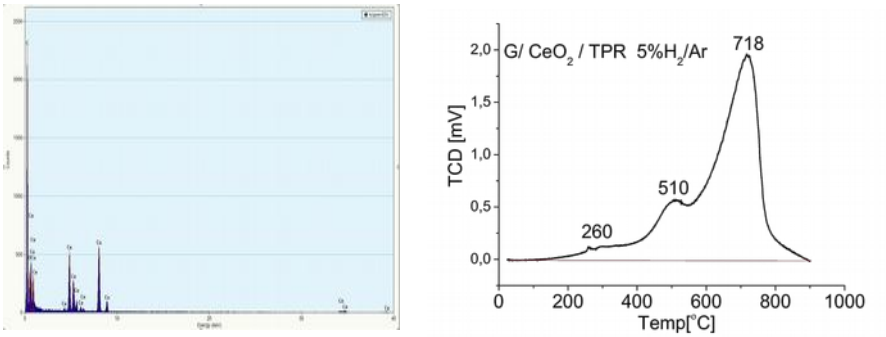
Following the auspicious results of the catalytic performance of ceria supported on MWCNTs in primary alcohols dehydrogenation and consecutive bimolecular condensation reactions to form symmetrical ketones [1], some attempts have been made to replace the multiwalled carbon nanotubes by graphene. Thus, cerium dioxide was deposited on graphene, using a chemically simple method. Considering HRTEM analysis, the resulted material has a sufficiently uniform distribution of CeO_2. The TPR measurement results are also very promising, confirming the potentially high catalytic activity in these transformations of oxygenates.



EDX elemental micro-analysis (a) and TPR (b) of ceria decorated graphene

1. *Dovbeshko G., Kovalska E., Miśta W., Klimkiewicz R.* Ag/CeO_2 supported on MWCNTs as effective ketonization catalyst // 2nd International research and practice conference Nanotechnology and Nanomaterials (NANO-2014) Lviv, Ukraine, 2014, p. 142-143.