"Pure and modified nickel and cobalt molybdates as catalysts for the oxidative dehydrogenation of propane"

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Abstract
This work deals with the search for new molybdate-type catalyst formulations for the activation of light alkanes and their conversion to alkenes. In the first part, we showed that is possible to stabilize the beta-phase of NiMoO$_4$ (as pure phase) by incorporating a certain amount of Co in its lattice. The sol-gel method was also applied to the synthesis of solid solutions of NiMoO$_4$ and CoMoO$_4$. The main difference between the bulk and silica-dispersed Ni-Co-Mo catalysts prepared by citrate or sol-gel methods as well as impregnation, is related to the fact that it is possible to stabilize the beta-Ni$_{1-x}$Co$_x$MoO$_4$ phase throughout the whole composition range in the dispersed catalysts. Moreover, the catalytic data emphasize the advantage of using mixed Ni-Co molybdates in comparison with simple Ni or Co molybdates and also the fact that a higher activity is reached when these active phases are dispersed in a silica matrix. In the second part, we reported on the synthesis, characterization ...

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## Appendix I: Literature Survey and Theoretical Concepts

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