Journal of Basic and Applied Engineering Research
p-ISSN: 2350-0077; e-ISSN: 2350-0255; Volume 4, Issue 7; October-December, 2017, pp. 579-579

http://www.krishisanskriti.org/Publication.html

Role of SupportedAg/AgCl/VOx Nanoparticles over Bared Silver Vanadates

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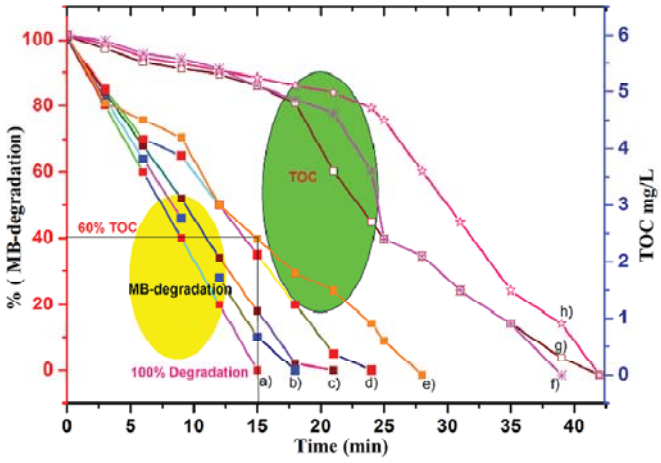
Abstract—*The primary challenge for V_2O_5 lies in itsextremely poor thermal stability and mechanical strength which in turn leads to different problems in separation, recyclability etc. To overcomethis problem, it is necessary to improve the catalytic properties of vanadium catalyst by depositing on an appropriate support or capping agent. In general, different support such as alumina, silica, MWCNT, zeolite or metal oxide etc.has been used. The activity and selectivity of supported materials are significantly affected by the properties of the support oxide material. In case of vanadium oxides, the supported oxide shows different chemical and electronic properties from those for unsupported vanadium pentoxide (V_2O_5).Along with vanadium oxides (VO), Silver vanadium oxides (SVO) have gained special attention because of their importance in rich crystal chemistry and unique physical and chemical properties, such as electrochemical and photo-catalytic activities, sensing, optical, magnetic, electrical properties, and antibacterial activity etc.SVO material has an excellent application for advanced biomedical devices as in battery materials. To further improve the activity and performance of vanadium oxides catalyst herein we synthesized Ag/AgCl/VOx over MWCNT. The synthesized supported materials show enhanced photocatalytic behaviour than the bared one which was further confirmed by total organic content (TOC) analysis.*



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