

# Laser desorption ionisation (LDI) quadrupole ion trap time-of-flight mass spectrometric study of $(\text{WO}_3)_n$ clusters formation in gas phase

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Tungsten oxide ( $\text{WO}_3$ ) exhibits wide range of applications in biomedicine, cosmetics, electronics, coatings and plastics, catalysis, etc. [1]. Laser desorption ionization and quadrupole ion trap time of flight mass spectrometry (LDI-QIT-TOF-MS) is important and suitable tool to study formation of clusters in gas phase [2-3].

In this work using LDI and/or MALDI (Matrix Assisted Laser Desorption Ionisation) of  $\text{WO}_3$  (while using carbonaceous matrices such as nanodiamonds or  $\text{C}_{60}$  fullerene) the formation of tungsten oxide clusters in gas phase was followed. Mass spectra in negative ion mode were more complex than in positive one. Mostly,  $(\text{WO}_3)_n^-$  ( $n=1-17$ ) clusters were observed. This series of  $\text{WO}_3$  clusters is different from that one described by Singh et. al. [2]. In addition, some other  $\text{W}_x\text{O}_y^{+/-}$  clusters with lower or higher number of oxygens were also detected and only traces of WC clusters were observed.

## References:

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