



Reactions in the Gas-Phase and Adsorption Properties of Elements Cn and Heavier

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The heaviest elements whose properties have been characterized experimentally are Cn and Fl. Their volatility, as an adsorption enthalpy, on the surfaces of gold and quartz has been determined using gas-phase chromatography techniques [1-4]. The first attempt of chemical characterization of Nh has also been announced using a similar approach [5]. To render assistance to those experiments, formation energies of gaseous compounds of these SHEs and their homologs have been considered using modern relativistic quantum-chemical codes such as DIRAC and ADF. Moreover, interaction of those elements and their compounds with gold and quartz surfaces have been predicted using relativistic periodic codes such as ADF BAND [6,7]. In the presentation, analysis of those results with respect to the experimental outcome is discussed.

References

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