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Chemistry of heaviest Group 13 Elements

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Fundamental chemistry experiments with superheavy elements (SHEs) are instrumental for furthering our understanding of relativistic effects and their effects on the physicochemical properties of predominantly heavy elements. After the chemical characterization of copernicium (Cn, Z = 112) and flerovium (Fl, Z =114) [1,2] in their elemental states, the focus has shifted towards nihonium (Nh, Z = 113) for it to be chemically characterized. The first Nh chemistry experiments revealed rather unspecific results [3,4]. Thus, online experiments with the lighter homolog thallium have since become the focus to address these shortcomings and to complement past offline investigations [5]. The outcome of these studies revealed the importance of preparatory, online studies with the lighter homolog(s) before further Nh experiments are conducted. Presented here will be the recent on- and offline experiments with Tl focusing on the stability of fused silica surfaces as the stationary phase.

References

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