CHEMISTRY OF THE HEAVIEST ELEMENTS

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Chemical studies of the heaviest elements with atomic numbers $Z \geq 101$ provide not only crucial and challenging opportunities to advance our understanding of properties of matter at the limits of existence but also those to elucidate the influence of relativistic effects on atomic electrons and to architect the periodic table of the elements at the farthest reach. These elements are all man-made ones synthesized at accelerators using nuclear reactions of heavy-ion beams with heavy element target materials. As both half-lives and production rates of these nuclides are rapidly decreasing, they are usually available in quantities of only a few atoms or often one atom at a time. Here, we briefly introduce recent highlighted chemistry experiments conducted by state-of-the-art rapid chemical separation apparatuses.