Relative to π-electron systems between elements from the second row of the periodic table, those between heavier main group elements should exhibit higher HOMO and lower LUMO levels. Moreover, such π-electron systems and unsaturated species, i.e., low-coordinated species, of between heavier main group elements are expected to be good electron acceptors and donors, and they should also exhibit good electron transporting properties. With the ultimate goal to create unprecedented π-electron systems or unsaturated species of heavier main group elements in mind, we designed redox active low-coordinated species of heavier main group elements bearing ferrocenyl units. Herein, our recent progress on the creation of ferrocenyl-based redox-active systems containing low-coordinated heavier group 14 elements will be presented.