

## Innocent Deelectronation in Innocent Solvents...

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The elementary steps underlying the reversible addition and removal of electrons from matter M – Metals, Molecules or Materials – are the fundament to describe redox chemistry, electrocatalysis and electrochemical energy storage. However, reagents for *Deelectronation* (= removal of an e<sup>-</sup>) at high potential are scarcely available. Hence, we prepare perhalogenated radical cation salts that act as *innocent Deelectronators* (iD<sup>+</sup>)<sup>[1]</sup> with high unified redox potentials. An iD<sup>+</sup> converts a given neutral M to the ‘naked’ cation M<sup>+</sup>. iD<sup>+</sup>-salts are straightforwardly accessible and room-temperature stable materials. Conveniently, they are in part weighable in air. Combined with suitable non-reactive, weakly coordinating but polar *innocent solvents* and robust weakly coordinating anions,<sup>[2]</sup> *reactive cation salts* are accessible.<sup>[3]</sup>

The lecture will present examples for such *innocent Deelectronators*,<sup>[1]</sup> investigate their applicability to prepare new textbook compounds, i.e. transition metal carbonyl cations<sup>[4]</sup> and place their redox potentials on a *Unified Redox Scale* able to compare electrochemical potentials in all media.<sup>[5]</sup>

### References:

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