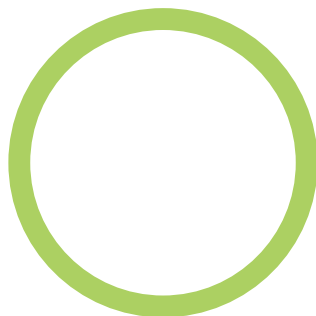


Protactinium



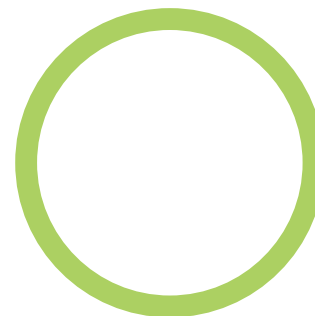
Protactinium is scarce, toxic, and highly radioactive. Consequently, it's used little outside of research.

Protactinium-231



Protactinium-231 is used in geology for the radiometric dating of sediments which are up to 175,000 years old. Its most common isotope, ^{231}Pa , has a half-life of 32,760 years.

Actinium



'precursor of actinium' – one of its radioactive decay products is actinium.