

Nuclear Chemistry

Radionuclide	Alpha Decay	Beta Decay	Gamma Emission	Position
Particle Accelerator	Cyclotron	Half-Life	Belt of Stability	Electron Capture
Linear Accelerator	Synchrotron	Radioactive	Nuclear Transmutations	Activity

1. The rate at which a sample decays: _____
2. The time required for half of a radionuclide sample to decay: _____
3. When an electron from the surrounding electron cloud is absorbed into the nucleus:

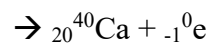
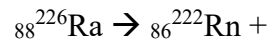
4. Uses D-shaped magnets to keep particles moving in a spiral: _____
5. The loss of an alpha particle: _____
6. Use strong magnetic and electric fields to make the particles move fast: _____
7. Can be induced by causing a particle to collide with a nucleus: _____
8. Shows what nuclides are stable: _____
9. The loss of a γ -ray, which is high-energy radiation that almost always accompanies the loss of a nuclear particle: _____
10. Accelerates particles in a path which is circular: _____
11. Nuclei that change spontaneously and are radioactive are referred to as: _____
12. The loss of a beta particle: _____
13. A particle that has the same mass as, but an opposite charge to that of an electron:

14. Has tubes of variable lengths and charges to make the particle move faster:

15. A descriptive term for nuclei that change spontaneously and emit radiation:

1. The atomic number is equal to:
2. The atomic mass is equal to:
3. Isotopes are:

Complete and determine which kind of radioactive decay is occurring:



What is the difference between nuclear fission and nuclear fusion?

What are the differences between critical mass, subcritical mass, and supercritical mass?