

HALF LIFE PROBLEMS

1. How much of a 0.74 mg sample of uranium-235 will remain after 2.8×10^9 years(the half-life of uranium-235 is 7.0×10^8 years).
2. A 0.456 mg sample of hydrogen-3 was collected. After 24.52 years, 0.114 mg of the sample remains. What is the half-life of hydrogen-3?
3. Strontium-90 is a beta emitter with a half-life of 29 years. What is the mass of strontium-90 in a 5.0 g sample of the isotope at the end of 87 years?
4. Manganese-56 is a beta emitter with a half-life of 2.6 hours. What is the mass of manganese-56 in a 1.0 mg sample of the isotope at the end of 10.4 hours?
5. A sample of thorium-234 has a half-life of 24.1 days. Will all the thorium undergo radioactive decay in 48.2 days? Explain.