^{218}Po

In the 1904 paper "Heating effect of the radium emanation", Rutherford and Barnes from McGill University described the discovery of a new activity later identified as ^{218}Po (1904Ru04). The decay curves of "excited activities" following the decay of radium and radium emanation (^{222}Rn) were measured. "An analysis of the decay curves of excited activity, produced for different intervals of exposure in the presence of the emanation, shows that there are three well-marked changes occurring in emanation X of radium. In the first change, half the matter is transformed in 3 minutes; in the second, half in 34 minutes; and in the third, half in 28 minutes. A full account of the analysis of these changes and their peculiarities will be given by one of us in a later paper. The first change is accompanied only by α rays, the second change is not accompanied by α rays at all, and the third change by α, β, and γ rays." The 3 min half-life of the first decay was later named radium A. Rutherford and Soddy had reported the observation of a "Radium-Excited Activity I" from the decay of radium emanation earlier (1903Ru06).

Adapted from reference (2013Fr04)

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