

## $^{163}\text{Eu}$

Hayashi et al. observed  $^{163}\text{Eu}$  as reported in the 2007 paper “ $Q_\beta$  measurements of  $^{158,159}\text{Pm}$ ,  $^{159,161}\text{Sm}$ ,  $^{160-165}\text{Eu}$ ,  $^{163}\text{Gd}$ , and  $^{166}\text{Tb}$  using a total absorption BGO detector” (2007Ha57). A uranium carbide target was bombarded by 32 MeV protons from the Tokai tandem accelerator.  $^{163}\text{Eu}$ ,  $^{164}\text{Eu}$ , and  $^{165}\text{Eu}$  were formed in the reaction  $^{238}\text{U}(p,f)$  and identified with the Tokai-ISOL on-line mass separator. Beta-decay energies were measured with two BGO scintillation detectors. “Isotopes of  $^{163,164,165}\text{Eu}$  were recently identified by our group using this ion source, and the  $Q_\beta$  values of  $^{160-165}\text{Eu}$  and  $^{163}\text{Gd}$  were measured for the first time.” The earlier publication mentioned in the quote referred to a presentation by Sato at the 61<sup>st</sup> Annual Meeting of the Physical Society of Japan in 2006.

Adapted from reference (2013Ma01)

2007Ha57 H. Hayashi, Y. Akita, O. Suematsu, M. Shibata *et al.*, *Eur. Phys. J. A* **34**, 363 (2007).

2013Ma01 E. May and M. Thoennessen, *At. Data Nucl. Data Tables* **99**, 1 (2013).

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