Lawrence Berkeley National Laboratory
Recent Work

Title
Assignment of 48 min. and 2 min. Isomers of Cd

Permalink
https://escholarship.org/uc/item/98b4318p

Authors
Helmholz, A.C.
McGinnis, C.L.

Publication Date
1948-04-19
Each person who received this document must sign the cover sheet in the space below.

<table>
<thead>
<tr>
<th>Route to</th>
<th>Noted by</th>
<th>Date</th>
<th>Route to</th>
<th>Noted by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ASSIGNMENT OF 48 MIN. AND 2 MIN. ISOMERS OF Cd.

By
A. C. Helmholz and C. L. McGinnis
University of California
Radiation Laboratory
Department of Physics
Berkeley, California
April 19, 1948

The assignment of the 48 minute isomerism to Cd$^{111}$ by Goldhaber$^{(1)}$ has been verified by bombardment of enriched isotopes with fast neutrons. The activity has also been produced by high energy alphas ($> 20$ Mev) on Ag (Ag($\alpha$, pn)), and Pd$^{108}$ ($\alpha$, n). Attempts to separate this activity from the 2.7 d. in Cd$^{111}$ have failed, showing that the two $\gamma$-rays of energy 173 and 247 KeV observed in its decay$^{(2)}$ are not the same as the two of energy 145 and 230 KeV reported in the 48 min. isomerism by Hole$^{(3)}$. Further work on these $\gamma$-rays will be reported.

The 2 minute isomerism in Cd has been assigned to Cd$^{113}$ also by bombardment of separated isotopes with fast neutrons. Initial measurements have given 2.3 min. as the half-life.

This paper is based on work performed under contract W-7405-eng-46 with the Atomic Energy Commission in connection with the Radiation Laboratory, University of California, Berkeley, California.

(1) Abstracts of Washington Meeting.