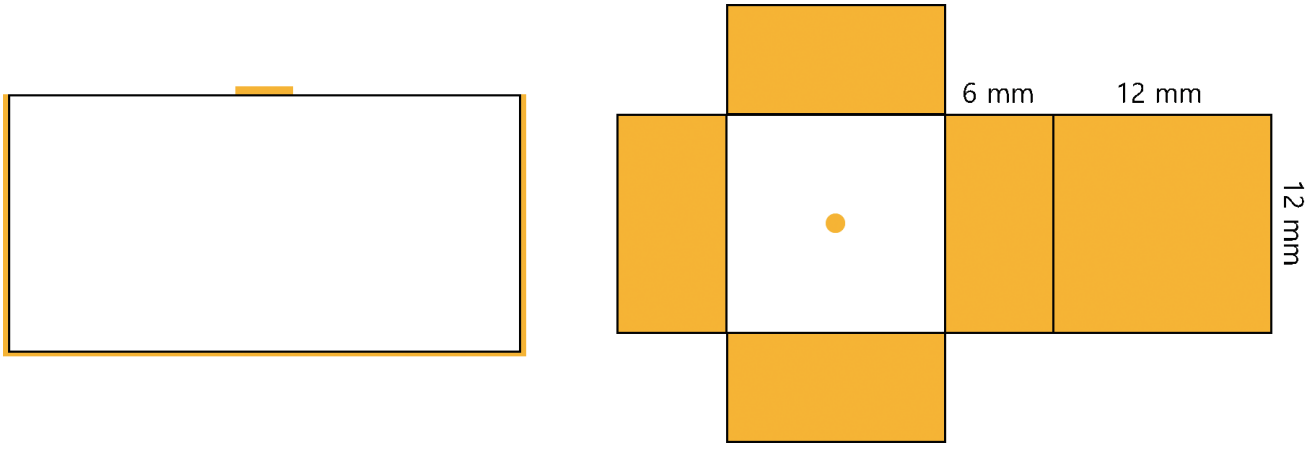
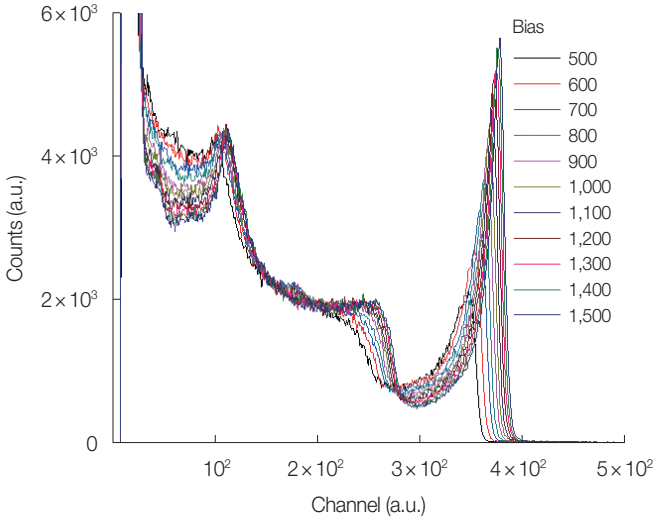
Supplementary Table S1. Quantitative Performance Depending on Bias Voltage

Bias (V)	Peak centroid	Peak height (count)	Valley count	P/V ratio	ER (%)
500	348	2,125	746	2.85	10.5
700	359	3,256	711	4.58	6.7
900	367	4,126	613	6.73	5.2
1,100	371	4,879	606	8.05	4.7
1,300	375	5,204	538	9.67	4.4
1,500	379	5,665	486	11.66	5.2

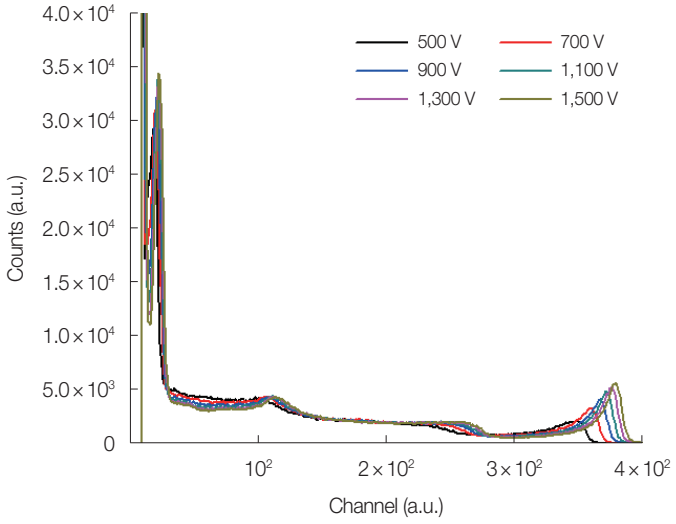
P/V, peak-to-valley; ER, energy resolution.



Supplementary Fig. S1. Diagram of quasi-hemispherical $Cd_{0.9}Zn_{0.1}Te$ (CZT) detector configuration.



Supplementary Fig. S2. Spectroscopic properties of quasi-hemispherical $Cd_{0.9}Zn_{0.1}Te$ (CZT) detector depending on the externally biased voltages obtained with Cs-137 radioisotope; overlapped plot including all the spectra. Fig. 2B was extracted from this data. a.u., arbitrary unit.



Supplementary Fig. S3. Different Y-axis scale of Fig. 2B shows 32 keV gamma rays. a.u., arbitrary unit.

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