

It was found that the proper molar ratio of Cd:Te in the crystal was 1:1. The x-ray diffraction studied showed the "Zinc-blende (cubic)" pattern of crystal and have value of lattice constant $a_{av} = 6.60 \text{ \AA}$. This type of crystal had been proved to be a good model of an ideal semiconductor that can be applied for a radiation detector. Our experiments in crystal characterization showed a satisfied electric resistivity ($\rho = 0.2255 \text{ \Omega.cm}$) and ionization energy conductivity ($E_a = 0.024 \text{ ev}$). Enthiastically, the growth crystal showed the changing current effect upon gamma ray exposure using Cd-109 22.4 KeV., (20 mCi) from $100 \mu\text{A}$ to $300 \mu\text{A}$.