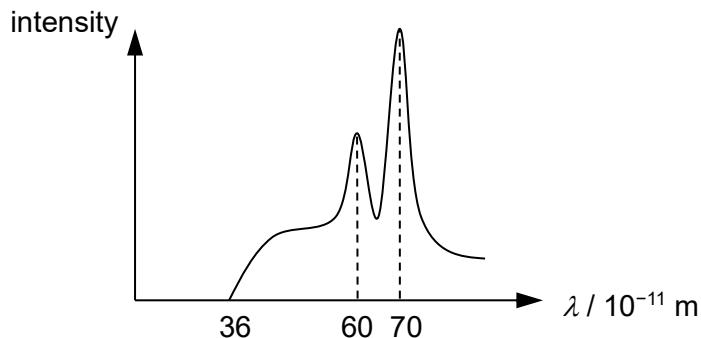


- 29** X-ray tubes generate X-rays by accelerating electrons across a vacuum and bombarding them into a metal target. The X-ray spectrum of a metal target is shown in the figure below.



Which of the following statements is incorrect?

- A** The smallest wavelength detected,  $36 \times 10^{-11} \text{ m}$ , is dependent on the maximum kinetic energy of the electrons.
- B** The wavelength detected at  $50 \times 10^{-11} \text{ m}$  is due to photon emitted as a result of energy loss when an electron passes near the atom and its path is deflected.
- C** The locations of the peaks can be used to identify the element that the target material is made of.
- D** The positions of the peaks allow us to calculate the energy of the electrons used to bombard the target.