Rays production:

- $E_{K\alpha} = E_L - E_K$ if e^- jump from "L" to "K" → α produce
  shell difference → 1
- $E_{K\beta} = E_M - E_K$ if e^- jump from "M" to "K" → β produce
  shell difference → 2
- $E_{K\gamma} = E_N - E_K$ if e^- jump from "N" to "K" → γ produce
  shell difference → 3

- Energy $\alpha < \beta < \gamma$
  $E_{K\alpha} < E_{K\beta} < E_{K\gamma}$
  - $f_{K\gamma} > f_{K\beta} > f_{K\alpha}$
- $\lambda_{K\alpha} > \lambda_{K\beta} > \lambda_{K\gamma}$
- $I_\alpha > I_\beta > I_\gamma$ (intensity)

Dependance:

- Energy of characteristic x-rays depend upon → target material
  (voltage)^x
- Energy of continous x-rays depend upon → voltage.

Which of the following transition has maximum energy?

(a) $n=2 \rightarrow n=1$ K
(b) $n=3 \rightarrow n=1$ β
✓(c) $n=4 \rightarrow n=1$ γ

X-rays were discovered by Roemo

which has maximum λ.

(a) $n=2 \rightarrow n=1$ α
(b) $n=3 \rightarrow n=1$ β
(c) $n=4 \rightarrow n=1$ γ

Continous X-ray → continous spectrum

→ decleration → no. of emmission of e^-
→ dexcitation → depend upon voltage

$$K.E = hf_{max} \qquad K.E = \frac{hc}{\lambda_{min}}$$

$$V_e = \frac{hc}{\lambda_{min}} \Rightarrow \lambda_{min} = \frac{hc}{V_e} \rightarrow \lambda_{min} = \frac{1240\ nm}{V} \qquad \lambda_{min} = \frac{12400\ A^\circ}{V}$$