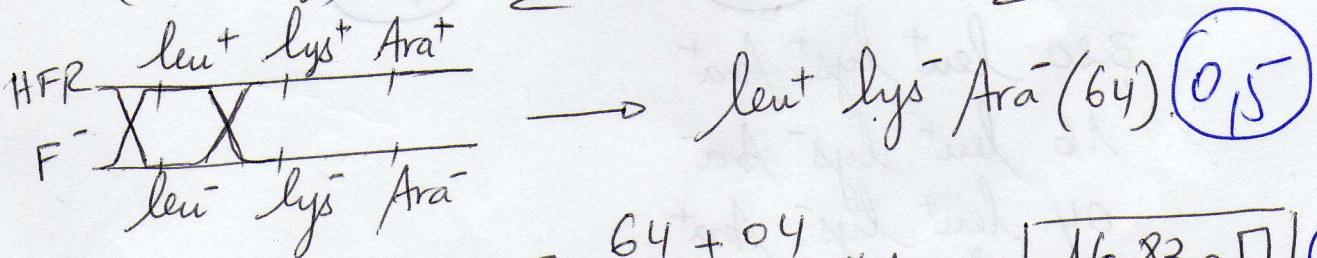


l'ordre des gènes est : $leu \quad lys \quad Ara$ 110

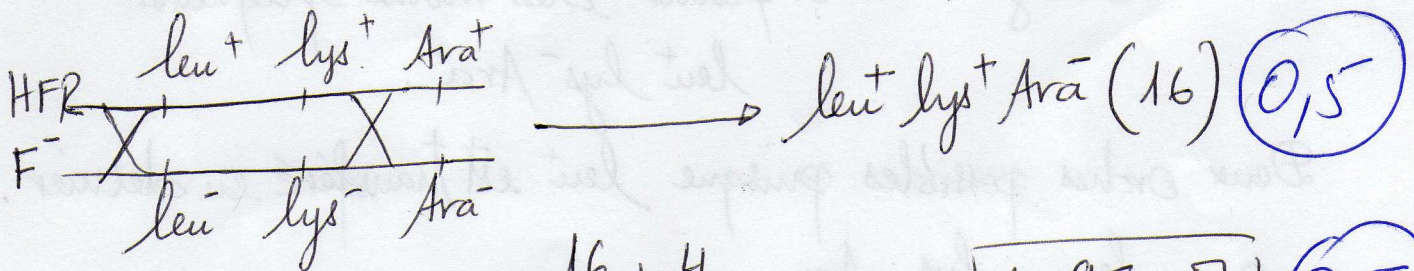
④ Déduire les distances:

$$D(leu - lys) = \frac{\sum TR(leu - lys)}{\sum} \times 100 = \frac{SR(leu - lys) + DR}{\sum} \times 100.$$



$$= \frac{64 + 04}{404} \times 100 = \boxed{16,83 \text{ cP}} \quad \text{0,5}$$

$$D(lys - Ara) = \frac{\sum TR(lys - Ara)}{\sum} \times 100 = \frac{SR(lys - Ara) + DR}{\sum} \times 100$$



$$= \frac{16 + 4}{404} \times 100 = \boxed{4,95 \text{ cP}} \quad \text{0,5}$$