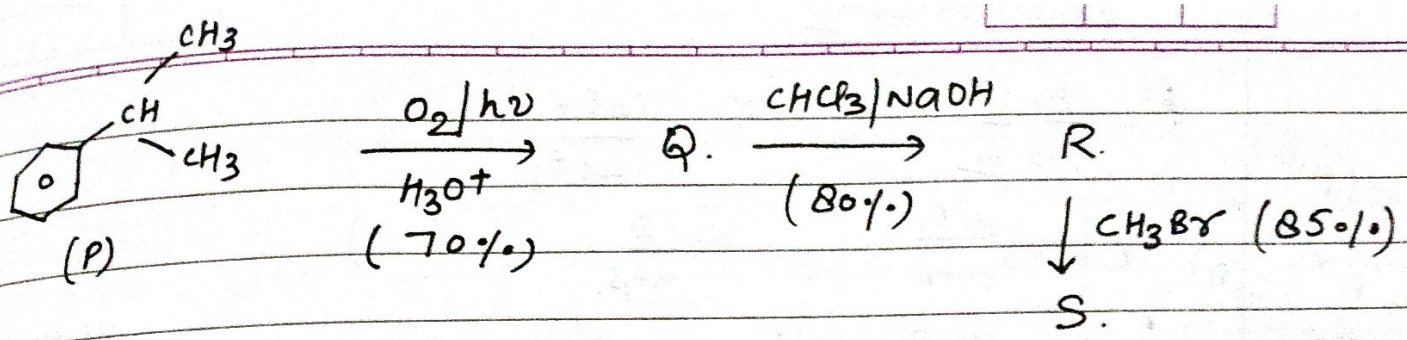
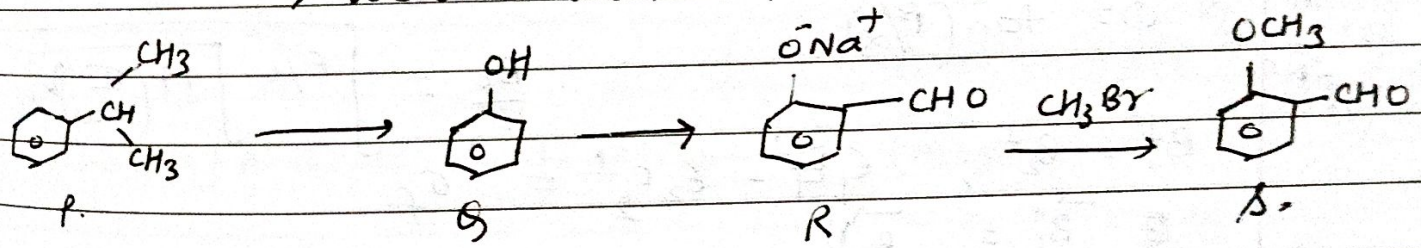


Consider the reaction sequence in which we start with 24g of P. The percentages indicated in brackets are yields of corresponding reactions. find the weight of S formed.

Sol^n. molecular mass of P = 120g

⇒ we start with 0.2 mole of P.



Ideally 1 mole P gives 1 mole S.

But under the given yield conditions, 1 mole P gives $1 \times 0.7 \times 0.8 \times 0.85 = 0.476$ mole S.

So, 0.2 mole P give 0.0952 mole S.

weight of S formed = 0.0952 × molar mass of S

$= 0.0952 \times 136$

$= \boxed{12.95\ g}$.