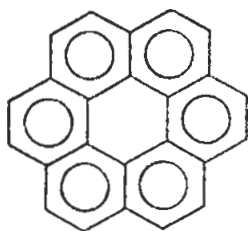


1. (12) Circle those of the following which are chiral.

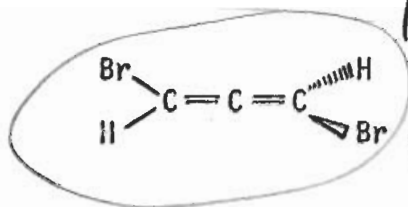
4/ exam total

349

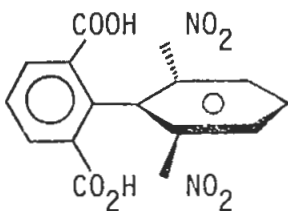
a.



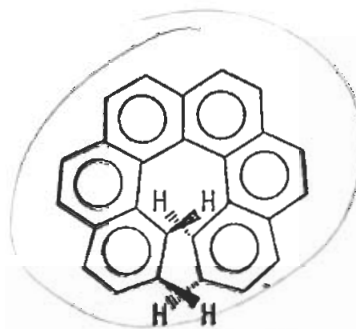
b.



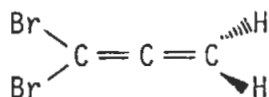
c.



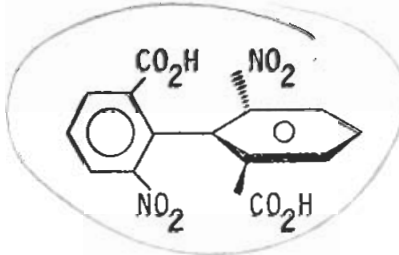
d.



e.



f.



2. (8) A hypothetical undecapeptide (21 amino acid units) was subjected to complete hydrolysis and amino acid analysis giving the following composition (Ala₁, Arg₁, Asp₂, Glu₂, Gly₄, Ile₂, Leu₁, Lys₁, Met₁, Phe₁, Pro₂, Trp₁, Tyr₁, Val₁). End group analysis showed that the C-terminal amino acid was Ala, and the N-terminal was Glycine. Trypsin and Chymotrypsin cleavages gave the following peptides, sequenced by the Edman method. What is the sequence of the original undecapeptide?

Chymotrypsin

- C-1 Gly-Pro-Trp
- C-2 Asp-Glu-Ile-Ala
- C-3 Met-Arg-Leu-Ile-Gly-Phe
- C-4 Gly-Lys-Glu-Gly-Pro-Val-Arg-Tyr

Trypsin

- T-1 Tyr-Met-Arg
- T-2 Glu-Gly-Pro-Val-Arg
- T-3 Gly-Pro-Trp-Gly-Lys
- T-4 Leu-Ile-Gly-Phe-Asp-Glu-Ile-Ala

gly-pro-trp-gly-lys-glu-gly-pro-val-arg-tyr-met-
 → arg-leu-ile-gly-phe-asp-glu-ile-ala