

Bonding and General Concepts 1.

Deg-I Hons. Lecture-5 04/02/2022

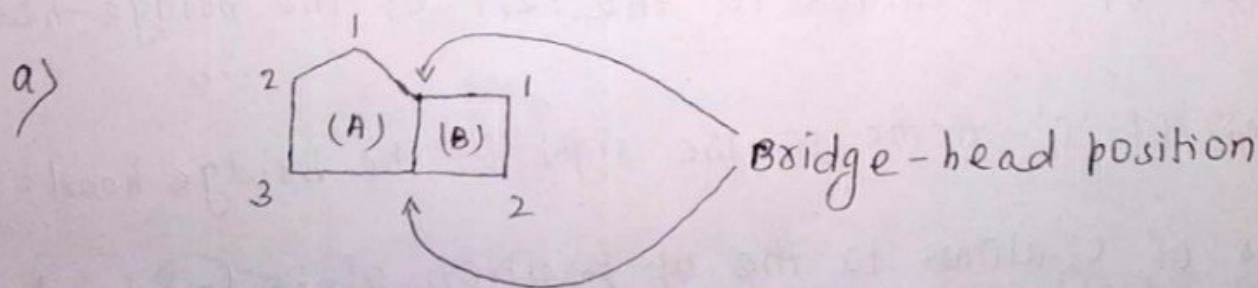
Paper-II Group-B Chapter-1

Nomenclature of Bicyclo Compounds

2021-2024

- * Compounds with two fused cycloalkane rings are called bicyclo compounds.
- * They are cyclo alkanes having two or more atoms in common.
- * The prefix bicyclo is followed by the name of the alkane whose number of 'c' atoms is equal to the number of 'c' atoms in the two rings.
- * The bracketed numbers show the number of 'c' atoms (except bridge-head position 'c'-atoms) in each bridge and they are cited in decreasing order.

For example

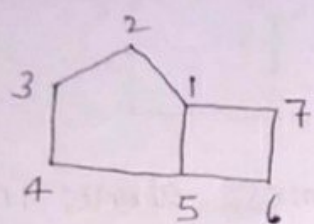


(i) Number of 'c' atoms in ring A = 3

2.

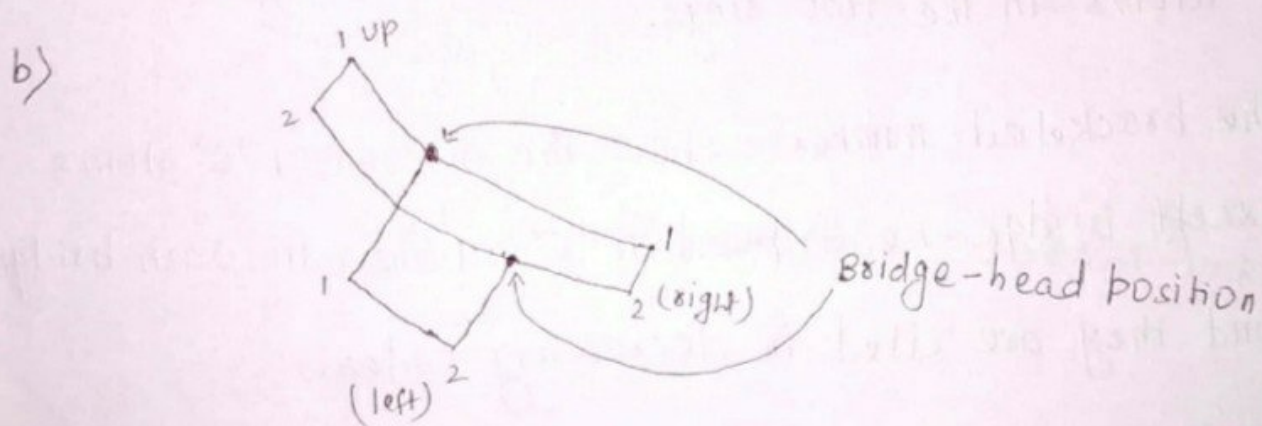
- (ii) Number of 'c' atoms in ring B = 2
- (iii) Number of 'c' atoms between bridge-head position = 0
- (iv) Total 'c' atom = 3 (in ring A) + 2 (in ring B) + 2 (bridge-head position) = 7

Numbering in accordance with naming the compound



* Numbering starts from the bridge-head to the larger ring and then back to the smaller ring.

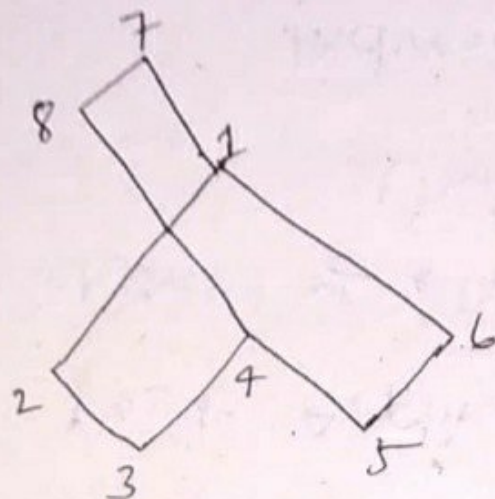
IUPAC name: Bicyclo [3.2.0] heptane



- (i) Number of 'c'-atoms to the left of the bridge-head = 2
- (ii) Number of 'c'-atoms to the right of the bridge head = 2
- (iii) Number of 'c' atoms to the up position of bridge head = 2
- ∴ Total 'c'-atoms = 2 + 2 + 2 + 2 (bridge-head position) = 8

3.

Numbering in accordance with naming of compound:



IUPAC name:

Bicyclo [2.2.2] octane

Continues..
