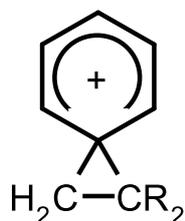
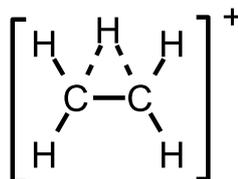


bridged carbocation

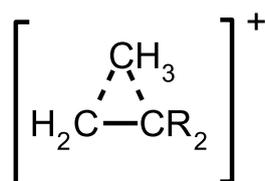
A carbocation (real or hypothetical) in which there are two (or more) carbon atoms that could in alternative Lewis formulae be designated as carbenium centres but which is instead represented by a structure in which a group (a hydrogen atom or a hydrocarbon residue, possibly with substituents in non-involved positions) bridges these potential carbenium centres. One may distinguish 'electron-sufficient bridged carbocations' and 'electron-deficient bridged carbocations'. Examples of the former are phenyl-bridged ions (for which the trivial name 'phenonium ion' has been used), such as (A). These ions are straightforwardly classified as carbenium ions. The latter type of ion necessarily involves three-centre bonding. Structures (C) and (D) contain five-coordinate carbon atoms. The 'hydrogen-bridged carbocation' (B) contains a two-coordinate hydrogen atom. Hypercoordination, which includes two-coordination for hydrogen and five- but also higher coordination for carbon is generally observed in bridged carbocations.



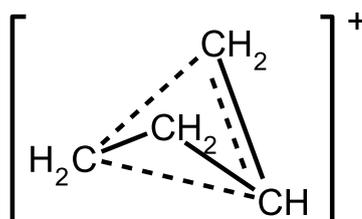
(A)



(B)



(C)



(D)

See also: carbonium ion, multi-centre bond, neighbouring group participation

Source:

PAC, 1994, 66, 1077 (*Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)*) on page 1090