

## anti

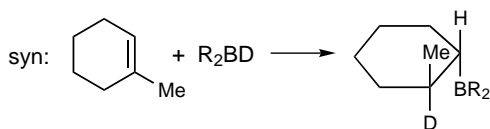
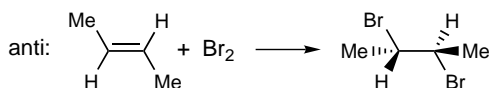
In the representation of stereochemical relationships ‘anti’ means ‘on opposite sides’ of a reference plane, in contrast to ‘syn’ which means ‘on the same side’, as in the following examples.

(A) Two substituents attached to atoms joined by a single bond are anti if the *torsion angle* (dihedral angle) between the bonds to the substituents is greater than  $90^\circ$ , or syn if it is less than  $90^\circ$ . (A further distinction is made between antiperiplanar, synperiplanar, anticlinal and synclinal.)

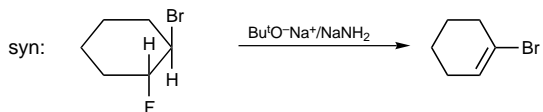
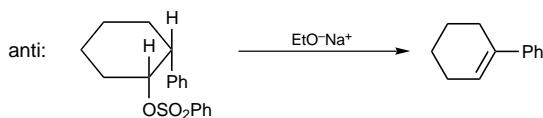
(B) In the older literature the terms anti and syn were used to designate stereoisomers of oximes and related compounds. That usage was superseded by the terms ‘trans’ and ‘cis’ or *E* and *Z*, respectively.

(C) When the terms are used in the context of *chemical reactions* or *transformations*, they designate the relative orientation of substituents in the substrate or product:

(1) Addition to a carbon-carbon double bond:



(2) Alkene-forming elimination:



In the examples described under (1) and (2) anti processes are always *antarafacial*, and syn processes are *suprafacial*.

See also *endo*, *exo*, *syn*, *anti*.

1994, 66, 1084; 1996, 68, 2199