

coordination

The formation of a covalent bond, the two shared electrons of which have come from only one of the two parts of the molecular entity linked by it, as in the reaction of a Lewis acid and a Lewis base to form a Lewis adduct; alternatively, the bonding formed in this way. In the former sense, it is the reverse of unimolecular heterolysis. 'Coordinate covalence' and 'coordinate link' are synonymous (obsolescent) terms. The synonym 'dative bond' is obsolete. (The origin of the bonding electrons has by itself no bearing on the character of the bond formed. Thus, the formation of methyl chloride from a methyl cation and a chloride ion involves coordination; the resultant bond obviously differs in no way from the C–Cl bond in methyl chloride formed by any other path, e.g. by colligation of a methyl radical and a chlorine atom.) The term is also used to describe the number of ligands around a central atom without necessarily implying two-electron bonds.

See also: dipolar bond, π -adduct

Source:

PAC, 1994, 66, 1077 (*Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)*) on page 1100