radical pair (geminate pair)

The term is used to identify two radicals in close proximity in solution, within a solvent cage. They may be formed simultaneously by some unimolecular process, e.g. peroxide decomposition, or they may have come together by diffusion. While the radicals are together, correlation of the unpaired electron spins of the two species cannot be ignored: this correlation is responsible for the CIDNP phenomenon. A radical pair is called geminate provided that each radical partner is a descendant of the same parental pair.

See also: geminate recombination

Source:
PAC, 1994, 66, 1077 (Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)) on page 1156
PAC, 1995, 67, 1307 (Glossary of class names of organic compounds and reactivity intermediates based on structure (IUPAC Recommendations 1995)) on page 1363
PAC, 1996, 68, 2223 (Glossary of terms used in photochemistry (IUPAC Recommendations 1996)) on page 2270