

cross-conjugation

In a system $\text{XC}_6\text{H}_4\text{GY}$ this is conjugation involving the substituent X, the benzene ring and the side-chain connective-plus-reaction site GY, i.e. either X is a +R group and GY is a -R group, or X is a -R group and GY is a +R group. In Hammett correlations this situation can lead to the need to apply exalted substituent constants σ^+ or σ^- , respectively, as in electrophilic or nucleophilic aromatic substitution, respectively. The term 'through resonance' is synonymous. Cross conjugation has also been used to describe the interactions occurring in 2-phenylallyl and similar systems.

Source:

PAC, 1994, 66, 1077 (*Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)*) on page 1101