

**selectivity factor,  $S_f$** 

A quantitative representation of selectivity in aromatic substitution reactions (usually electrophilic, for monosubstituted benzene derivatives). If the partial rate factor,  $f$ , expresses the reactivity of a specified position in the aromatic compound PhX relative to that of a single position in benzene, then the selectivity factor  $S_f$  (expressing discrimination between  $p$ - and  $m$ -positions in PhX) is defined as:

$$S_f = \log_{10} \left( \frac{f_p^X}{f_m^X} \right)$$

**Source:**

PAC, 1994, 66, 1077 (*Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)*) on page 1162