

## configuration (electronic)

A distribution of the electrons of an atom or a molecular entity over a set of one-electron wavefunctions called orbitals, according to the Pauli principle. From one configuration several states with different multiplicities may result. For example, the ground electronic configuration of the oxygen molecule (O<sub>2</sub>) is:  $1\sigma_g^2, 1\sigma_u^2, 2\sigma_g^2, 2\sigma_u^2, 1\pi_u^4, 3\sigma_g^2, 1\pi_g^2$  resulting in the  $^3\Sigma_g, ^1\Delta_g$  and  $^1\Sigma_g^+$  multiplets.

### **Source:**

PAC, 1994, 66, 1077 (*Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)*) on page 1099

PAC, 1996, 68, 2223 (*Glossary of terms used in photochemistry (IUPAC Recommendations 1996)*) on page 2233