Examples of Bond and Molecular Dipoles

Electronegativity:

- H = 2.1
- C = 2.5
- Cl = 3.0
- O = 3.5
- S = 2.5

Notes:

- Shorter distance results in a larger dipole.
- Electronegativity difference of < 0.5 is NOT a polar bond.
- The black dipole arrows represent the polarity of each bond; the red dipole arrows represent the net molecular dipoles.

For each of these three structures, a small dipole toward the double bond is not canceled, however, because all three structures exist in resonance, there is no net dipole. SO$_3$ is nonpolar.