## **Alternative Representations of Organic Chemical Structures**

There are numerous conventions for drawing the structures of organic compounds. Chemists rarely draw Lewis structures (e.g. structure 1) for organic molecules. Kekulé structures (e.g. structures 2 and 3), in which each bond is depicted explicitly, also can be very cluttered and time consuming to draw. Condensed structures (e.g. structure 4) are used more often, especially if the molecule is relatively simple. Further visual simplification is obtained by using skeletal structures (e.g. structures 5 - 9) in which the letter, C, is not written explicitly for every carbon atom. Terminal groups may be shown in a number of manners or may be left implicit. Carbons are assumed to be at the vertices of all angles and at the ends of all lines, unless other atoms are shown. Hydrogens usually are not shown, but are assumed to be present wherever necessary to complete each carbon's valence (tetravalent carbons). All other atoms are drawn in explicitly. If stereochemistry is relevant, a substituent bond is shown as a solid wedge if it projects towards the viewer and hashed if it projects away from the viewer.

