

Fig. 2-1. The non-relativistic (solid) and relativistic corrected (dotted) values of (a) the de Broglie wavelength and (b) the velocity for an electron as a function of the applied acceleration voltage. The horizontal line in (b) is the speed of light.

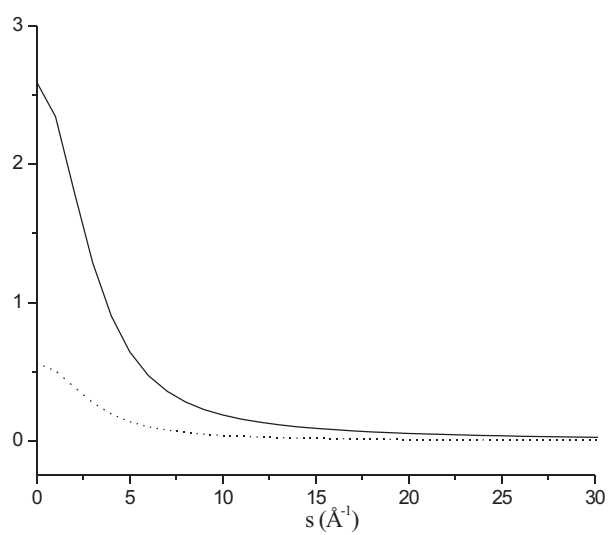


Fig. 2-2. Elastic scattering factors for carbon (solid) and hydrogen (dotted) as a function of  $s$ .  $f$  factors are proportional to  $Z/s^2$ .

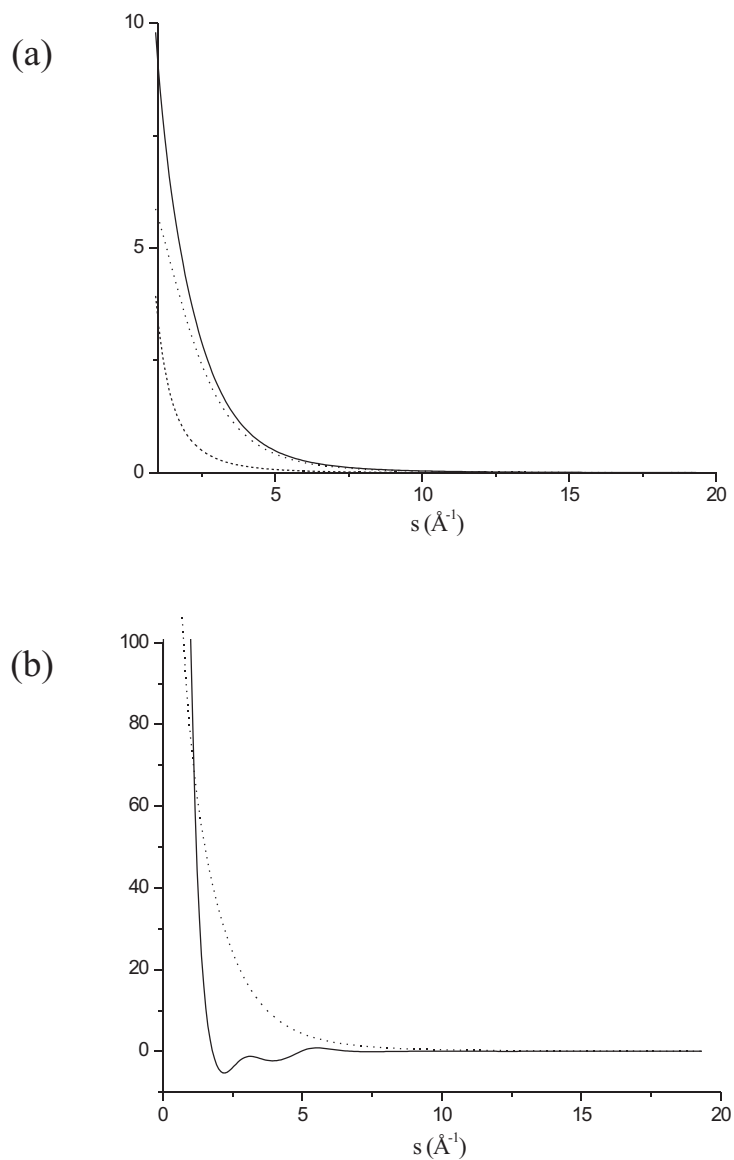


Fig. 2-3. (a) Calculated curves for the total atomic scattering (solid) the elastic scattering (dashed) and the inelastic scattering (dotted) for a single carbon atom. (b) Total atomic scattering (dashed) and molecular scattering (solid) for benzaldehyde,  $\text{C}_7\text{H}_6\text{O}$ .

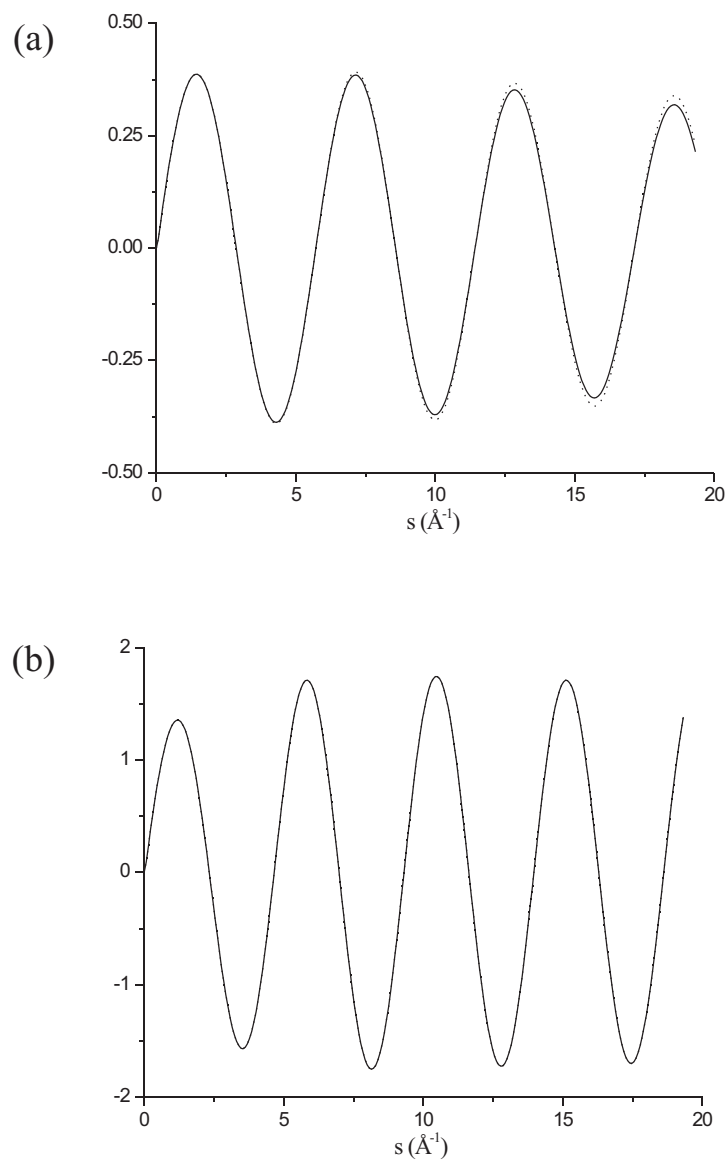


Fig. 2-4. Modified molecular scattering curves calculated with (solid) and without (dotted) phase factors for (a) a C-H bond pair at  $r = 1.1 \text{ \AA}$  and (b) a C-N bond pair at  $r = 1.35 \text{ \AA}$ . Vibrational contributions were not included.