

Figure 1 is a line graph showing the evolution of the mass fraction of various chemical species over time. The y-axis represents the mass fraction, and the x-axis represents time. The species tracked are  $\text{H}_2\text{O}$  (cyan),  $\text{CO}$  (blue),  $\text{CO}_2$  (green),  $\text{H}_2$  (red),  $\text{SH}$  (purple),  $\text{H}_2\text{S}$  (yellow-green),  $\text{CH}_4$  (brown),  $\text{S}_2$  (orange), and the total mass fraction (black). The total mass fraction starts at 1.0 and decreases over time.  $\text{H}_2\text{O}$  is the most abundant species, followed by  $\text{CO}$ ,  $\text{CO}_2$ ,  $\text{H}_2$ ,  $\text{SH}$ ,  $\text{H}_2\text{S}$ ,  $\text{CH}_4$ , and  $\text{S}_2$ . The Rayleigh curve is also shown for comparison.

200                  220                  240                  260                  280                  300

wavelength (nm)