Supporting information for ‘A tool for generating fast k-distribution gas-optics models for weather and climate applications’

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Figures S1 and S2.

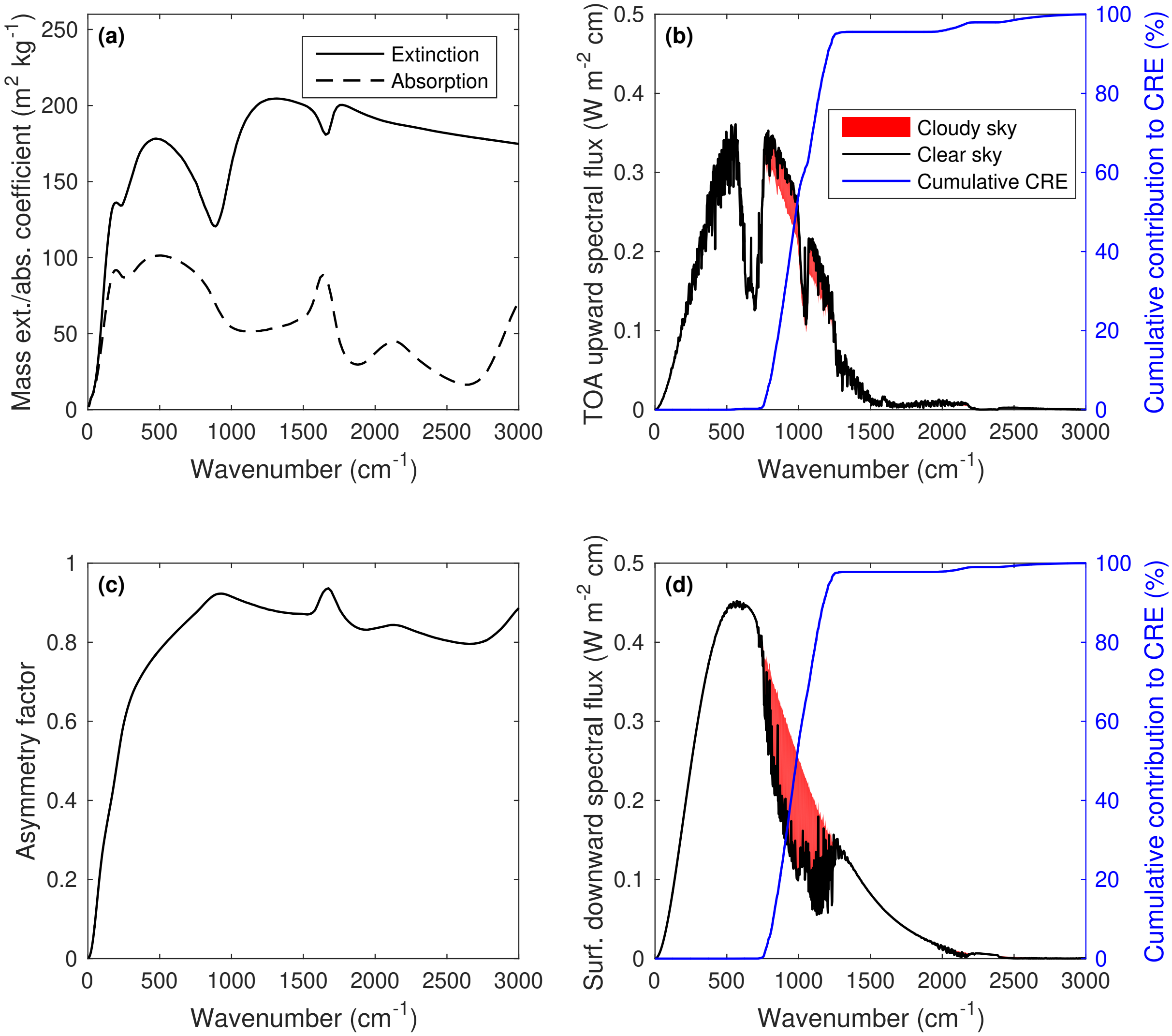

Figure S1: Supporting information for Fig. 8a–8c. (a) The mass extinction and mass absorption coefficients of liquid clouds with an effective radius of 10μm in the longwave part of the spectrum. (b) Line-by-line calculations of the upward spectral flux at top-of-atmosphere (TOA) for clear and cloudy skies (the latter up to a liquid water path of 10 kg m^{-2}) considering the liquid cloud case described in Table 1, and (blue line) the cumulative spectral contribution to the cloud radiative effect for the largest liquid water path case. (c) As panel a but showing the cloud asymmetry factor. (d) As panel b but showing the downward spectral flux at the surface.

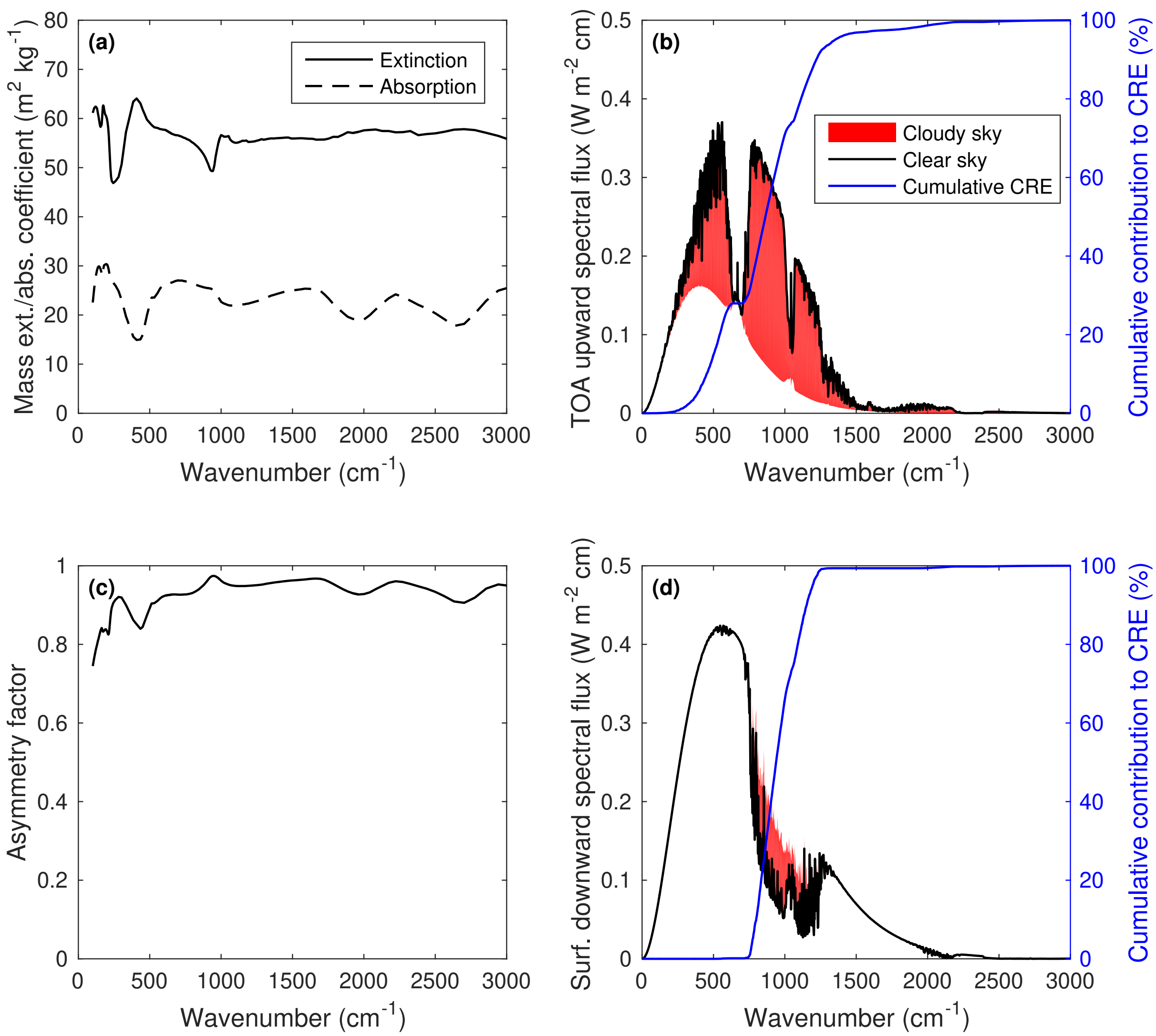

Figure S2: Supporting information for Fig. 9a–9c. (a) The mass extinction and mass absorption coefficients of ice clouds with an effective radius of 30μm in the longwave part of the spectrum. (b) Line-by-line calculations of the upward spectral flux at top-of-atmosphere (TOA) for clear and cloudy skies (the latter up to an ice water path of 10 kg m^{-2}) considering the ice cloud case described in Table 1, and (blue line) the cumulative spectral contribution to the cloud radiative effect for the largest ice water path case. (c) As panel a but showing the cloud asymmetry factor. (d) As panel b but showing the downward spectral flux at the surface.