

Table 1. *Environmental parameters on Mars and Earth surfaces (adapted from Graham [2004] and Kanervo et al. [2005])*

Parameter	Mars	Earth
Surface gravity	0.38 g	1.00 g
Mean surface temperature	−60°C	+15°C
Surface temperature range	−145 to +20°C	−90 to +60°C
Mean PAR photon flux	8.6×10^{19} photons $\text{m}^{-2} \text{s}^{-1}$	2.0×10^{20} photons $\text{m}^{-2} \text{s}^{-1}$
UV radiation spectral range	>190 nm	>300 nm
Atmospheric pressure	5–11 hPa	1013 hPa (mean at sea level)
Atmospheric composition (average)		
N ₂	0.189 hPa, 2.7%	780 hPa, 78%
O ₂	0.009 hPa, 0.13%	210 hPa, 21%
CO ₂	6.67 hPa, 95.3%	0.38 hPa, 0.038%
Ar	0.112 hPa, 1.6%	10.13 hPa, 1%

Graham, J.M. (2004). The biological terraforming of Mars: planetary ecosynthesis as ecological succession on a global scale. *Astrobiology* **4**, 168–195.

Kanervo, E., Lehto, K., Ståhle, K., Lehto, H. & Mäenpää, P. (2005). Characterization of growth and photosynthesis of *Synechocystis* sp. PCC 6803 cultures under reduced atmospheric pressures and enhanced CO₂ levels. *Int. J. Astrobiol.* **4**, 97.