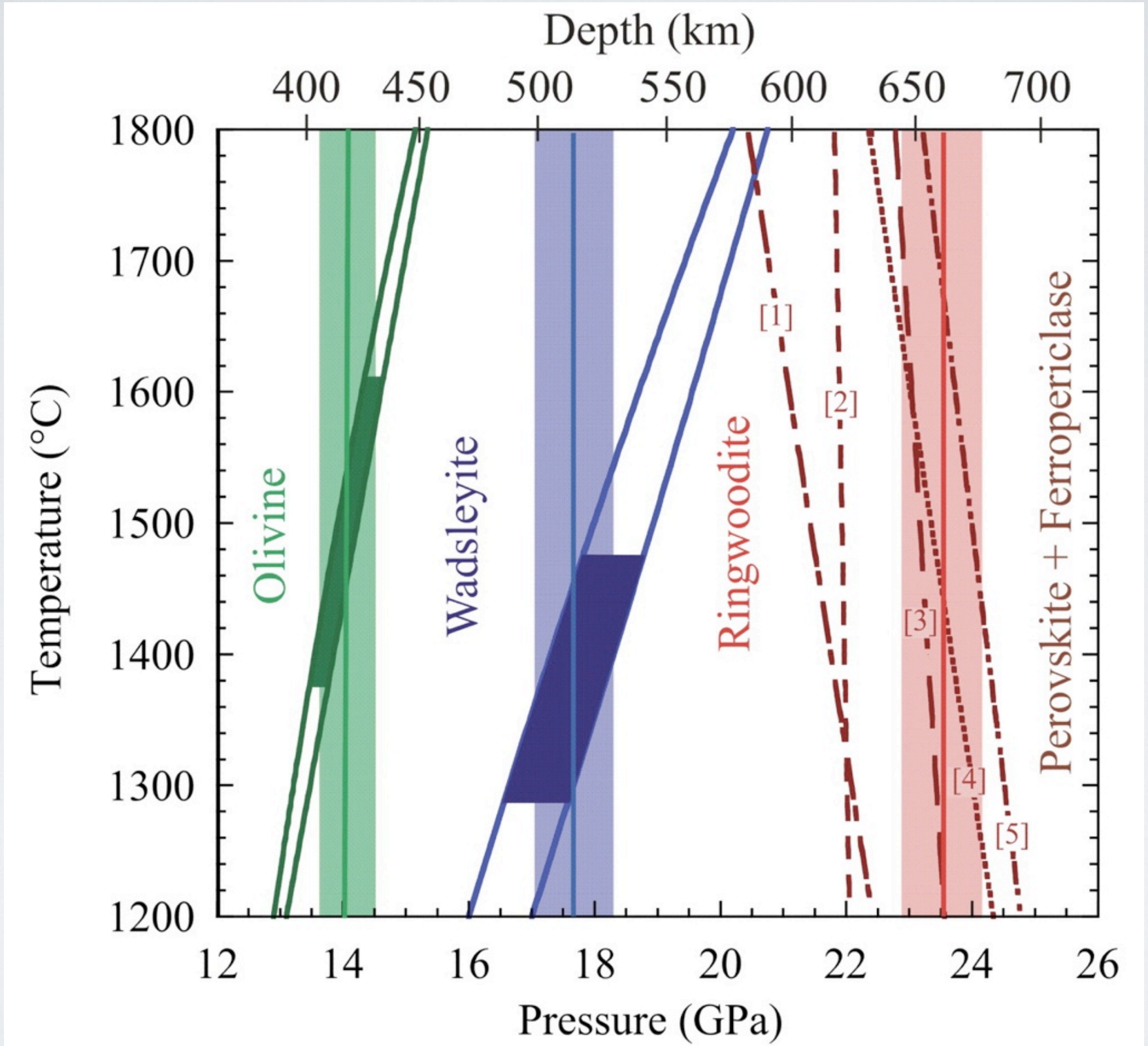

FIGURE 3 Pressure-temperature slopes for transition zone phase transformations compared to average discontinuity depths (vertical solid lines) and global topography (vertical shaded regions) of the 410 (green), 520 (blue) and 660 km (red) discontinuities. Double curves for the olivine-wadsleyite and wadsleyite-ringwoodite transformations indicate the depth intervals where transforming $(Mg,Fe)_2SiO_4$ solid solutions coexist (Frost 2003). These curves are shaded to indicate temperature ranges compatible with global discontinuity topography. The figure also shows individual curves for the Mg_2SiO_4 ringwoodite to perovskite + periclase reaction from different studies: [1] Irifune et al. (1998), [2] Katsura et al. (2003), [3] Fei et al. 2004, [4] Ito and Takahashi (1989) and [5] Shim et al. (2001).