Supplementary material to the manuscript "noisi: A Python tool for ambient noise crosscorrelation modeling and noise source inversion", submitted by Laura Ermert, Jonas Igel, Korbinian Sager, Eleonore Stutzmann, Tarje Nissen-Meyer and Andreas Fichtner.



Supplementary Figure 1: Model domain, seismic stations, and velocity model used in the comparison with SPECFEM3D\_globe. Red triangles show the stations. Color map shows the deviation of S40RTS shear wave velocity from PREM. S40RTS velocity perturbations were obtained from SubMachine (<u>https://www.earth.ox.ac.uk/~smachine/cgi/index.php</u>), see Hosseini et al. (2018).



Supplementary Figure 2: Showing the correlation traces shown in Figure 2 of the main manuscript, but here with a common amplitude normalization (preserving relative amplitude).



Supplementary Figure 3: Influence of the grid step, i.e. the integral discretization, on the outcome. The grid step used for the comparison in Figure 2 of the main manuscript is 10 km. The fit with SPECFEM3D\_globe can be improved by using a 5 km grid step. However, a 10 km grid step produces an accuracy that is probably satisfactory for most applications, while a coarser step of 20 km clearly degrades the result.