This folder contains a series of .csv files which contain the data used to create the mass spectra and iso-abundance plots presented in the manuscript “Aggregation Behaviour of E-SARA Asphaltene Fractions Studied by Small-angle Neutron Scattering”. An .xlsx file is also provided which combines all of the .csv files into a single downloadable file.

The files names correspond with the figure numbers as labelled in the manuscript. The following list summarise the data each in .csv file:

**Figure 1** = FTIR spectra of the heavy crude WA, RA and IAA samples. Columns labelled wavenumber (cm-1) and transmittance as appropriate.

**Figure 2a** = Scattering data from bitumen WA, including low Q and high Q data, the fitted model and the porod line plotted. Columns labelled <X> contain Q values (Å-1) whilst <Y> contain scattering intensity (cm-1). <dX> and <dY> denote the errors associated with the values respectively.

**Figure 2a inset** = Scattering data from bitumen WA, in units for Kratky plot, where <X> contain Q values (Å-1) and <y> \* <x>^2 represents the scattering intensity multiplied by the q values squared. Example Kratky values for a sphere and Gaussian chain are given in columns labelled <x> and <y>.

**Figure 2b** = Scattering data from heavy crude WA, including low Q and high Q data, the fitted model and the porod line plotted. Columns labelled <X> contain Q values (Å-1) whilst <Y> contain scattering intensity (cm-1). <dX> and <dY> denote the errors associated with the values respectively.

**Figure 2b inset** = Scattering data from heavy crude WA, in units for Kratky plot, where <X> contain Q values (Å-1) and <y> \* <x>^2 represents the scattering intensity multiplied by the q values squared. Example Kratky values for a sphere and Gaussian chain are given in columns labelled <x> and <y>.

**Figure 3a** = Scattering data from heavy crude WA in toluene, including very low Q, low Q and high Q data, the fitted model and the porod line plotted. Columns labelled <X> contain Q values (Å-1) whilst <Y> contain scattering intensity (cm-1). <dX> and <dY> denote the errors associated with the values respectively.

**Figure 3a inset** = Scattering data from bitumen WA (incl. low Q) in toluene, in units for Kratky plot, where <X> contain Q values (Å-1) and <y> \* <x>^2 represents the scattering intensity multiplied by the q values squared. Example Kratky values for a sphere and Gaussian chain are given in columns labelled <x> and <y>.

**Figure 3b** = Scattering data from heavy crude WA in heptol, including very low Q, low Q and high Q data, the fitted model and the porod line plotted. Columns labelled <X> contain Q values (Å-1) whilst <Y> contain scattering intensity (cm-1). <dX> and <dY> denote the errors associated with the values respectively.

**Figure 3b inset** = Scattering data from bitumen WA (incl. low Q) in heptol, in units for Kratky plot, where <X> contain Q values (Å-1) and <y> \* <x>^2 represents the scattering intensity multiplied by the q values squared. Example Kratky values for a sphere and Gaussian chain are given in columns labelled <x> and <y>.

**Figure 4a** = Scattering data from heavy crude RA, including low Q and high Q data, the fitted model and the porod line plotted. Columns labelled <X> contain Q values (Å-1) whilst <Y> contain scattering intensity (cm-1). <dX> and <dY> denote the errors associated with the values respectively.

**Figure 4a inset** = Scattering data from bitumen RA, in units for Kratky plot, where <X> contain Q values (Å-1) and <y> \* <x>^2 represents the scattering intensity multiplied by the q values squared. Example Kratky values for a sphere and Gaussian chain are given in columns labelled <x> and <y>.

**Figure 4b** = Scattering data from heavy crude IAA, including very low Q, low Q and high Q data, the fitted model and the porod line plotted. Columns labelled <X> contain Q values (Å-1) whilst <Y> contain scattering intensity (cm-1). <dX> and <dY> denote the errors associated with the values respectively.

**Figure 4b inset** = Scattering data from heavy crude IAA, in units for Kratky plot, where <X> contain Q values (Å-1) and <y> \* <x>^2 represents the scattering intensity multiplied by the q values squared. Example Kratky values for a sphere and Gaussian chain are given in columns labelled <x> and <y>.

**Figure 5** = NALDI-MS data for heavy crude IAA (columns 1 and 2) and RA (columns 4 and 5). The first columns contain the x-axis values (*m/z*) whilst the second columns contain y axis (intensity) values.

**Figure S1** = SLD values from different solvents, with columns labelled Solvent SLD and Sq rt of intensity used to obtain the fitting shown with intercept / slope values and errors.

**Figure S2** = Scattering data from bitumen WA (1 g/L) , including low Q and high Q data, the fitted model and the porod line plotted. Columns labelled <X> contain Q values (Å-1) whilst <Y> contain scattering intensity (cm-1). <dX> and <dY> denote the errors associated with the values respectively.