Supporting information:

Photochemical aging of atmospherically reactive organic compounds involving brown carbon at the air-aqueous interface

Figure S1: Relative area $(A/A_0)$ relaxation curve of irradiated and non-irradiated DOPC monolayers on artificial seawater. $A_0$ is the molecular area of monolayer at 25 mN/m.

Figure S2: Relative area $(A/A_0)$ relaxation curve of irradiated and non-irradiated DOPC monolayers on artificial seawater containing IC. $A_0$ is the molecular area of monolayer at 25 mN/m.
Figure S3: Relative area ($A/A_0$) relaxation curve of irradiated and non-irradiated DOPC monolayers on artificial seawater containing HA. $A_0$ is the molecular area of monolayer at 25 mN/m.

Figure S4: Relative area ($A/A_0$) relaxation curve of irradiated and non-irradiated DOPC monolayers on artificial seawater containing SOA sample. $A_0$ is the molecular area of monolayer at 25 mN/m.
Figure S5. Relative area ($A/A_0$) relaxation curve of irradiated and non-irradiated DOPC monolayers on artificial seawater containing PM$_{2.5}$ sample. $A_0$ is the molecular area of monolayer at 25 mN/m.

Figure S6: Relative area ($A/A_0$) relaxation curve of irradiated and non-irradiated DSPC monolayers on artificial seawater. $A_0$ is the molecular area of monolayer at 25 mN/m.
Figure S7: Relative area ($A/A_0$) relaxation curve of irradiated and non-irradiated DSPC monolayers on artificial seawater containing IC. $A_0$ is the molecular area of monolayer at 25 mN/m.

Figure S8: Relative area ($A/A_0$) relaxation curve of irradiated and non-irradiated DOPC monolayers on artificial seawater containing HA. $A_0$ is the molecular area of monolayer at 25 mN/m.