Supporting information

How seaweeds release the excess energy from sunlight to surrounding sea water

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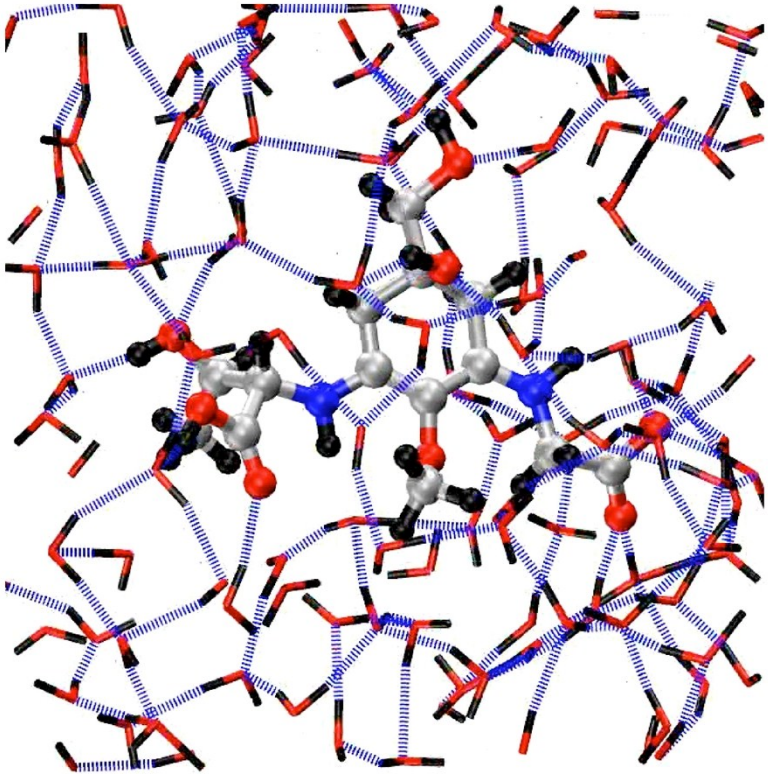

Fig. S1. Snapshot of the continuous hydrogen bond network in the simulation cell used in the present work. Solvating water molecules are represented by sticks only, whereas the porphyra-334 solute is evidenced by stich and balls. The color code is red for O, blue for N, gray for C and black for H. Hydrogen bonds are shown as dashed blue lines. The present structure refers to the geometry of configuration 2.

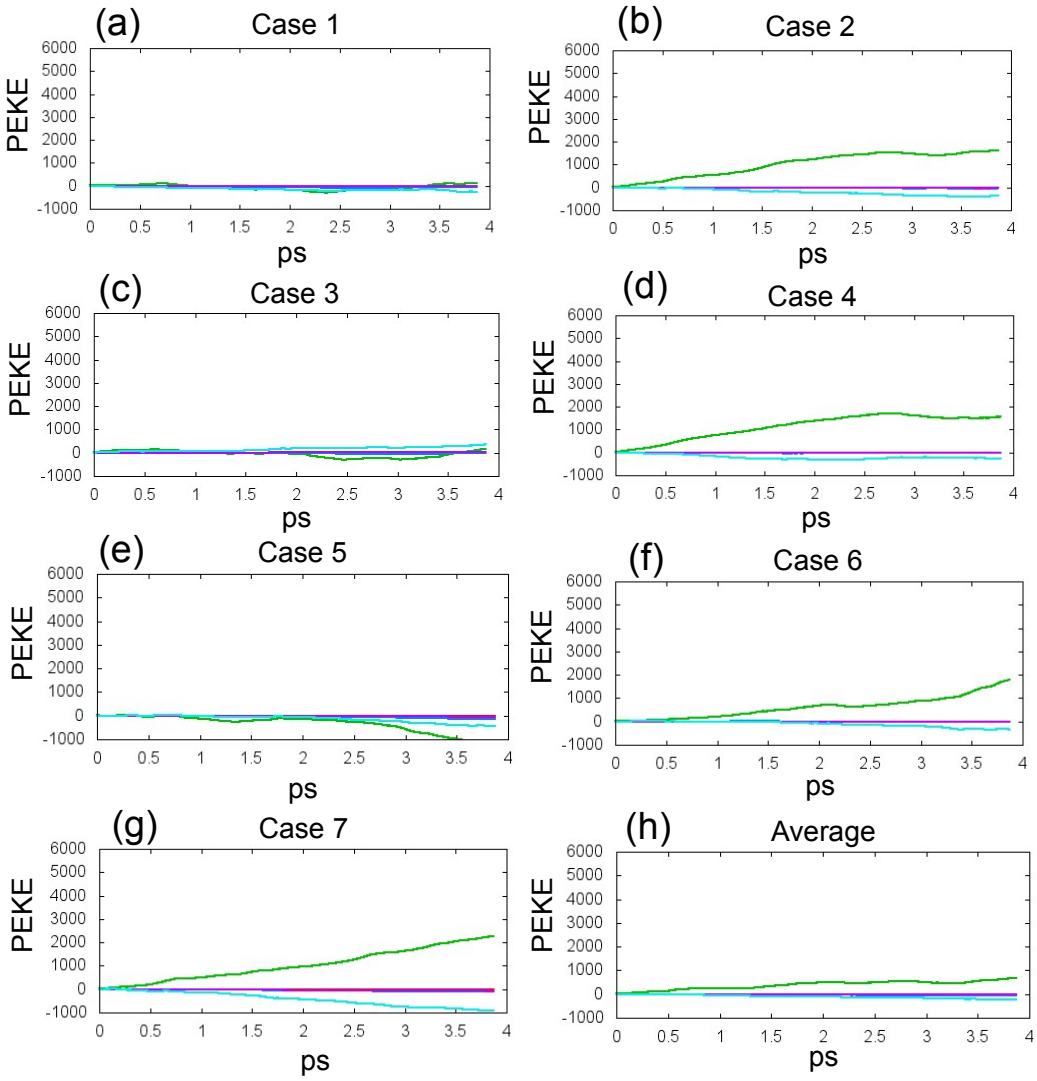

Fig. S2. Time evolution of the PEKEs contribution for each one of the seven independent MD simulation ((a)—(g)) and their overall average (panel (h)). Configuration 2 is used for these simulations.

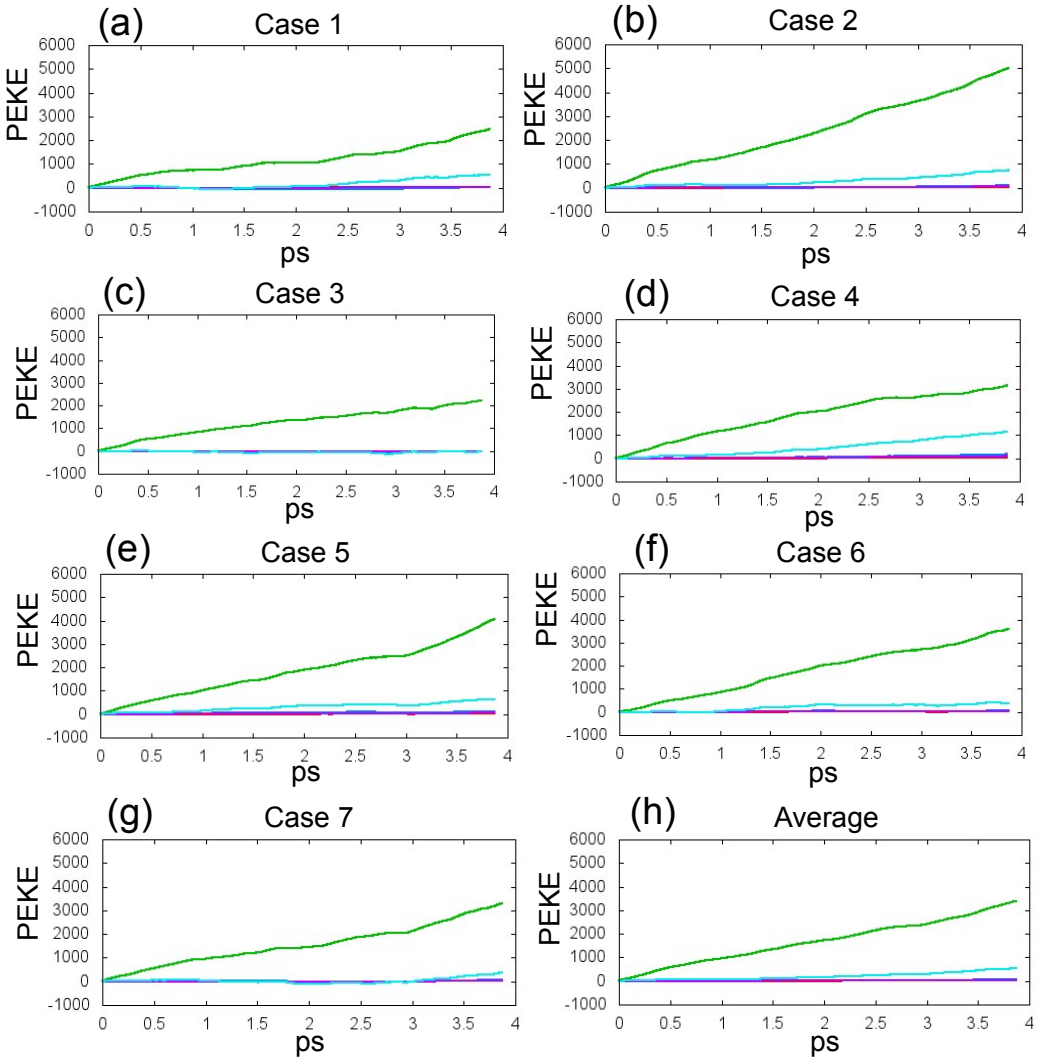

Fig. S3. Time evolution of the PEKEs contribution for each MD simulation ((a)—(g)) and overall average (h). Configuration 8 is used in these simulations.

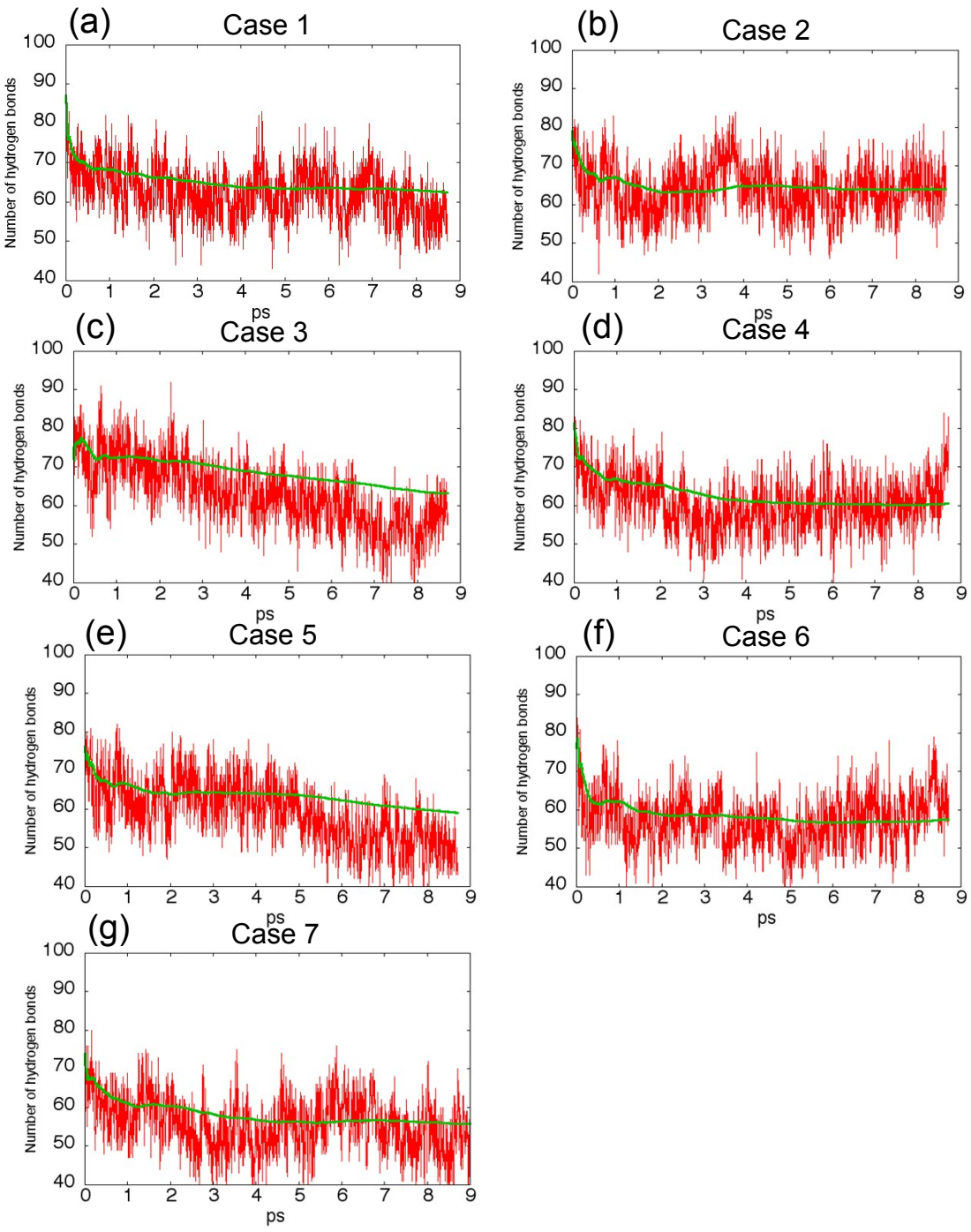

Fig. S4. The time evolution of the number of hydrogen bonds between water molecules for the seven independent simulations (from a to g) conducted starting from the Configuration 2 of porphyra-334.

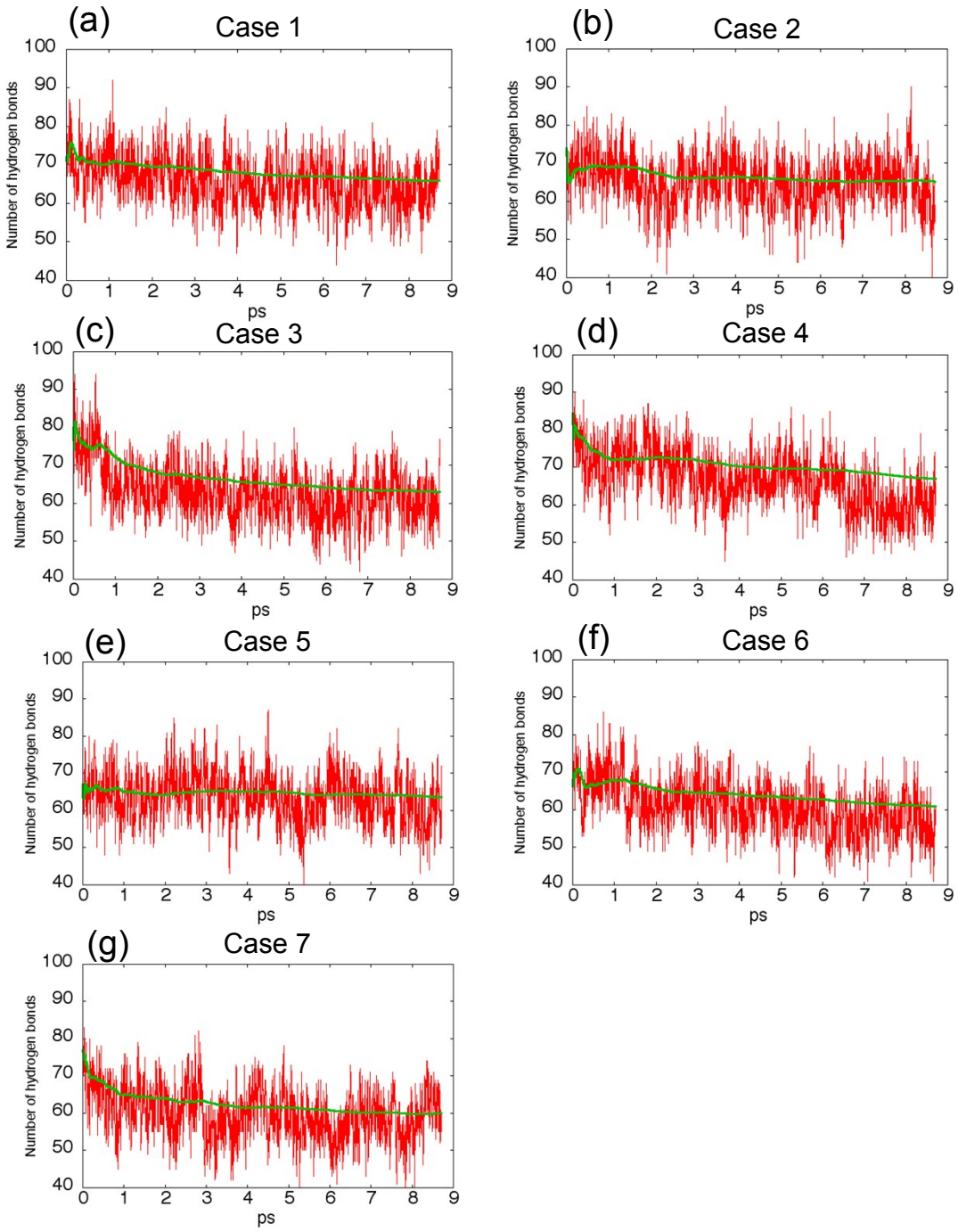

Fig. S5. Time evolutions of the numbers of hydrogen bonds between water molecules. Configuration 8 is used for these simulations.

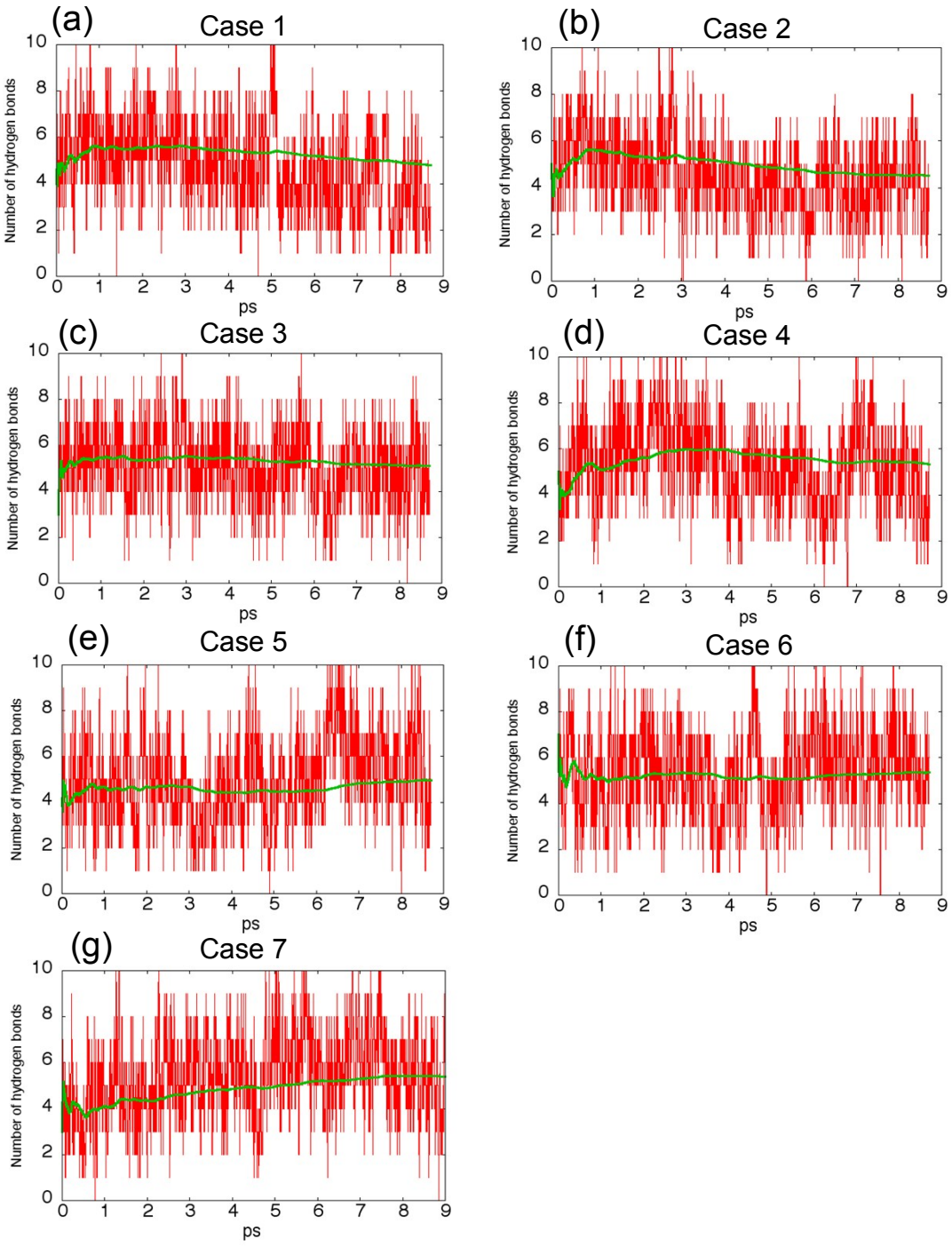

Fig. S6. Time evolution of the number of hydrogen bonds between the solvating water molecules and the porphyra-334. Configuration 2 is used for these simulations.

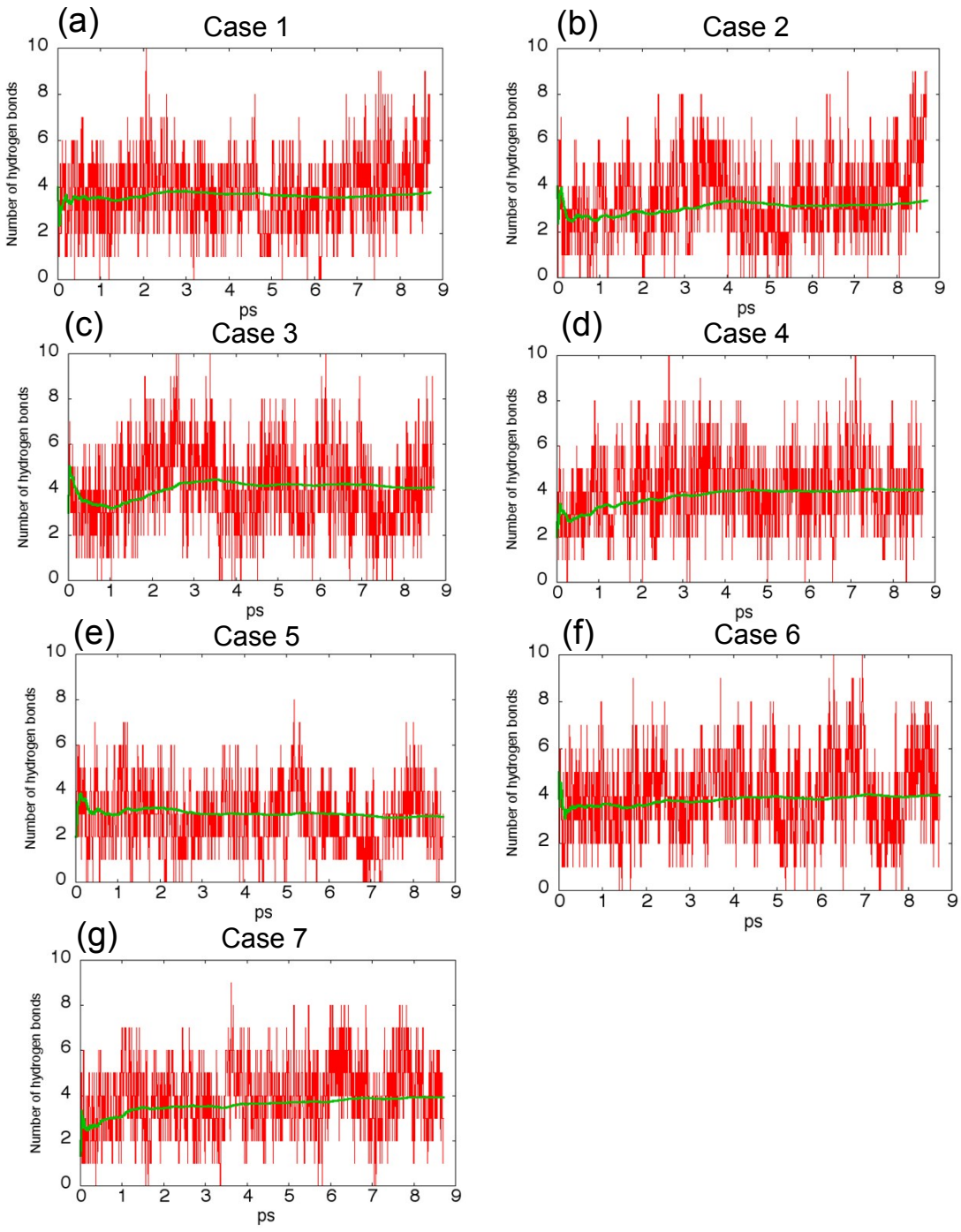

Fig. S7. Time evolution of the number of hydrogen bonds between the solvating water molecules and the porphyra-334. Configuration 8 is used for these simulations.