

**Table S8. Running time of NESmapper and NESsential.**

Tools		Running time
NESmapper		8 seconds
NESsential <sup>a</sup>	1st step (SABLE)	301 minutes
	2nd step (POODLE)	102 minutes
	Total	403 minutes

The dataset used contains 200 proteins with each 800 amino acids.

<sup>a</sup> NESsential has two steps of the sequential processes, accompanying the implementation of SABLE and POODLE-L.