

Table S1—Average percent of transitions from the state-pair category in each row to the state-pair category in each column.

	SWS/QW	SWS/SWS	TR/SWS	SWS/TR	TR/TR	REM/TR	REM/REM
QW/QW	32	-	-	-	-	-	-
SWS/AW	30	-	-	-	-	-	-
SWS/QW	-	54	-	-	-	-	-
SWS/SWS	18	-	30	12	10	-	-
TR/SWS	-	58	-	-	20	-	-
SWS/TR	-	68	-	-	-	-	-
TR/TR	-	-	-	30	-	14	11
REM/TR	-	-	-	-	-	-	77

Table S2—Average percent of transitions to the state-pair category in each row from the state-pair category in each column.

	SWS/QW	SWS/SWS	TR/SWS	SWS/TR	TR/TR	REM/TR
SWS/QW	-	35	-	-	-	-
SWS/SWS	27	-	27	11	-	-
TR/SWS	-	67	-	-	-	-
SWS/TR	-	65	-	-	19	-
TR/TR	-	42	41	-	-	-
REM/TR	-	-	-	-	46	-
REM/REM	-	-	-	-	16	39

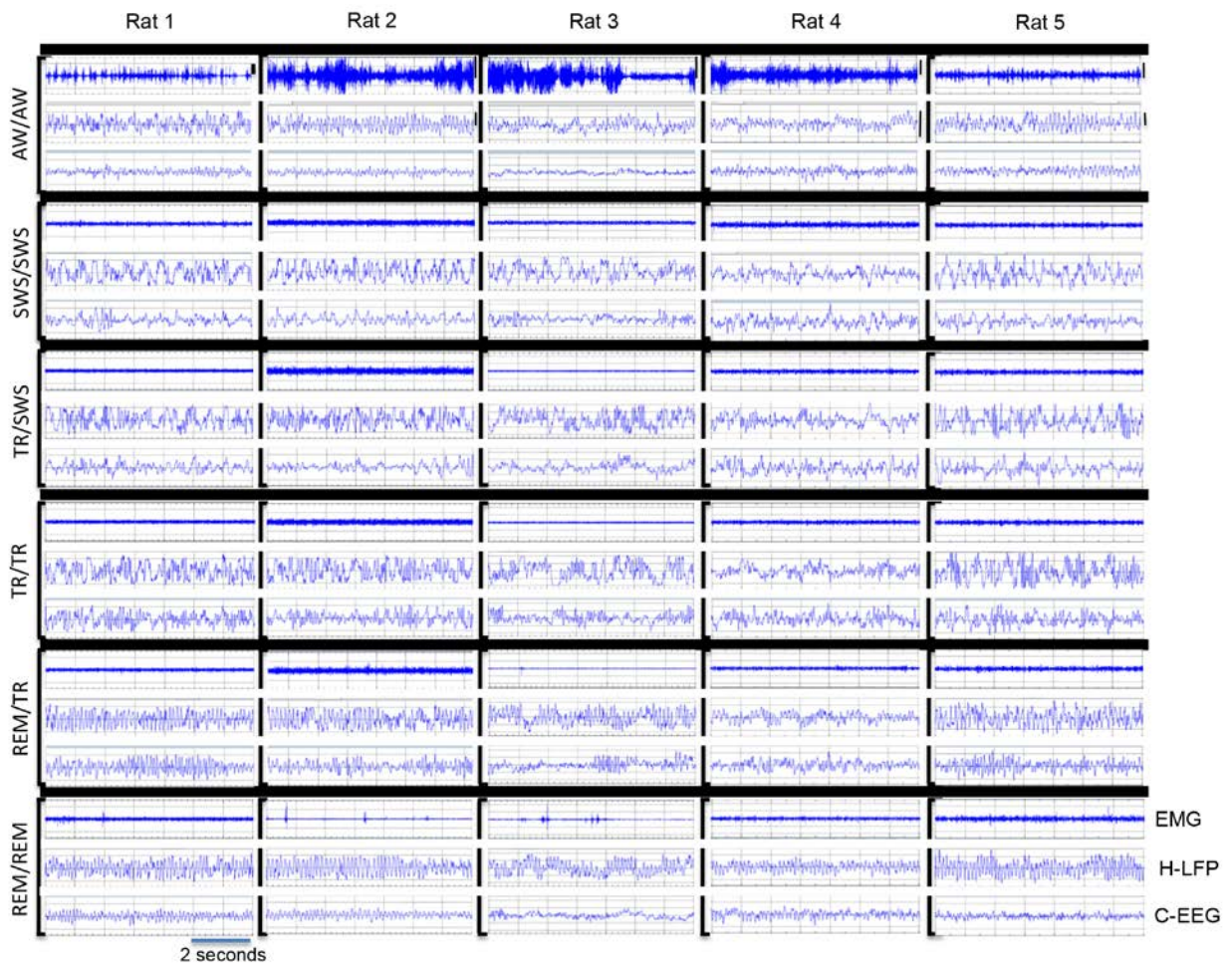


Figure S1—Examples of state-pair epochs from all five rats. Seven seconds out of each 10-sec epoch is shown for brevity. Vertical bars to the right of each trace in the uppermost active wake (AW/AW) state-pair indicate 200 μV for the same trace within the column. The bottom right panel shows the trace identities.

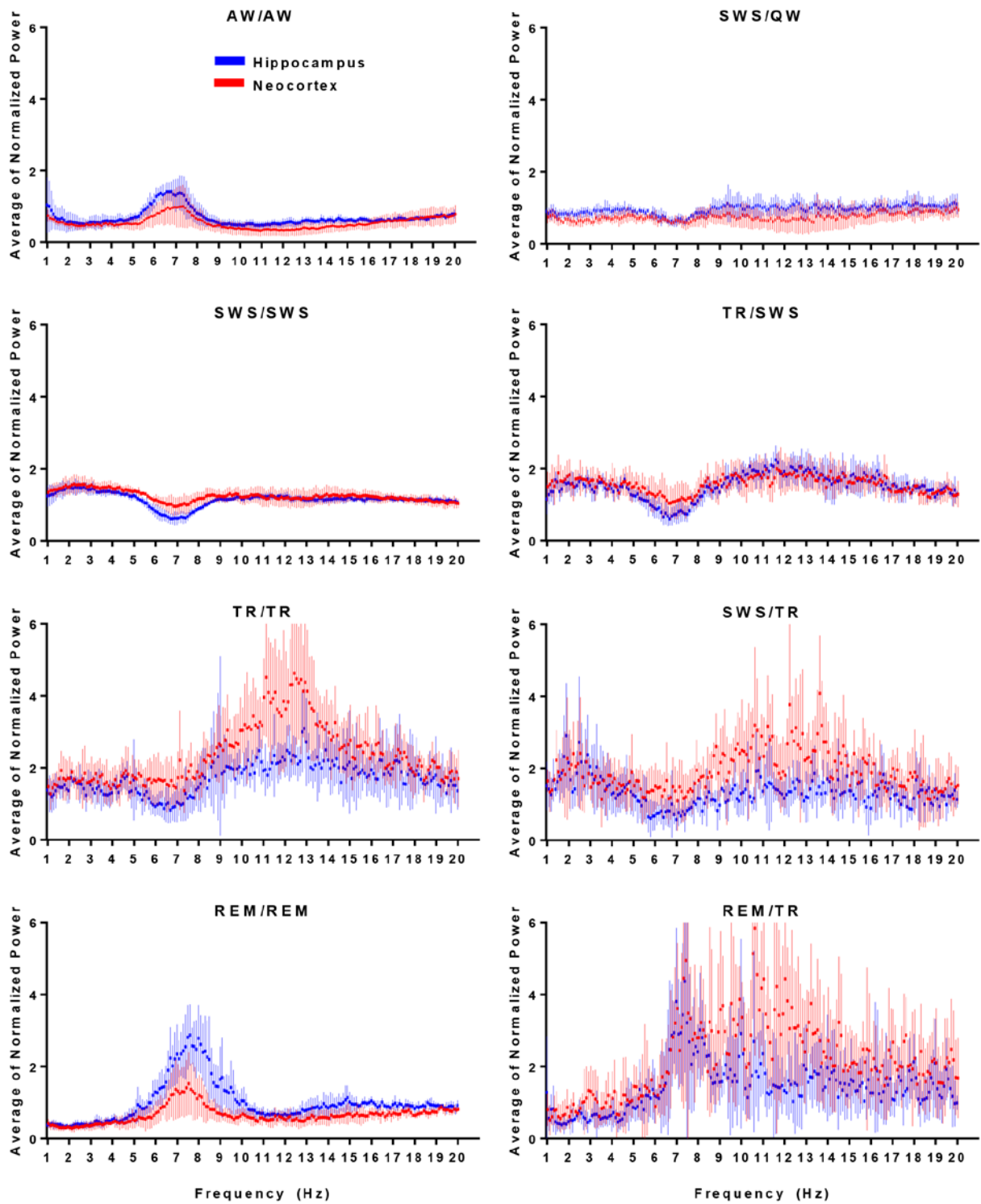


Figure S2—Power spectra for select state-pair categories. Normalized power spectra values (mean \pm standard error of the mean) across frequencies for epochs of relevant state-pair categories. State-pair categories are denoted as “hippocampal state/neocortical state”. Active wake (AW), quiet wake (QW), slow wave sleep (SWS), REM sleep (REM), or transition-to-REM sleep (TR) from hippocampal local field potential (LFP) and neocortical electroencephalogram (EEG) ($n = 5$).