Dear,
Follow the next steps and you will be able to repeat our research.
Best regards,
Zoran Šverko

Steps	Matlab script	Used functions/toolboxes	Used predefined data	Data produced by used script	Description
Step 1	figure_3_code.mat	/	/	/	Data generation and drawing procedure, Figure 3
Step 2	offline_preprocessing_real.mat	EEGLab toolbox	%[28] Torkamani Azar, M.; Kanik, S.D.; Aydin, S.; Cetin, M. Prediction of reaction time and vigilance variability from spatio-spectral %features of resting-state EEG in a long sustained attention task. IEEE J Biomed Health Inform 2020, 24, 2550–2558. % get the free subset of SPIS Resting-State EEG Dataset : % https://github.com/mastaneht/SPIS-Resting-State-Dataset	I suggest you save your data on your path so that you can research faster in the future (just one repeat this procedure is enough, you do not have to recalculate it every time you want to use this data for your research). We named our saved data : 'S02_restingPre_EC_pre.mat';'S02_restingPre_EO_pre.mat';'S03_restingPre_EC_pre.mat';'S03_restingPre_EO_pre.mat';'S04_restingPre_EC_pre.mat';'S04_restingPre_EO_pre.mat';'S05_restingPre_EC_pre.mat';'S05_restingPre_EO_pre.mat';.......	offline preprocessing real-life signals
Step 3	indices_calculation_real.mat	plv; fun_pli; fun_wpli	data defined in Step 2	I suggest you save your data on your path so that you can research faster in the future (just one repeat this procedure is enough, you do not have to recalculate it every time you want to use this data for your research). We named our saved data : "matrix_y_dot_v2.mat"	calculation of brain connectivity indices and required time for these calculations
Step 4	figures_tables_times_synth_real.mat	dscatter	data defined in Step 3 ("matrix_y_dot_v2.mat") data defined in Step 2	/	Drawing procedure, Figure 10, Figure 11, Table 3, Table 4, Figure 12, Figure 13, times
Step 5	indices_calculation_synth_MRC.mat	plv; fun_pli; fun_wpli	%% data availability % [26] Mäkinen, V.; Tiitinen, H.; May, P. Auditory event-related responses are generated independently of ongoing brain activity. % NeuroImage 2005, 24, 961–968. % https://data.mrc.ox.ac.uk/data-set/simulated-eeg-data-generator We named it: data_v1 Location file: nickloc31	%% Save Workspace % I suggest you save your data on your path so that you can research faster in the future (just one repeat this procedure is enough, % you do not have to recalculate it every time you want to use this data for your research). % save('path/name') - we named it "data_for_figure_v2.mat"	calculation of brain connectivity indices and required time for these calculations, for synthetic signals MRC
Step 6	figures_tables_times_synth_MRC.mat	dscatter	data defined in Step 5 ("data_for_figure_v2.mat")	/	Drawing procedure, Figure 4, Table 1, Figure 5, Figure 6, times
Step 7	indices_figures_time_Kuramoto.mat	plv; fun_pli; fun_wpli; dscatter	%% Data generation % [27] Šverko, Z.; Sajovic, J.; Drevenšek, G.; Vlahini´c, S.; Rogelj, P. Generation of Oscillatory Synthetic Signal Simulating Brain Network % Dynamics. In 2021 44th International Convention on Information, Communication and Electronic Technology (MIPRO), MEET - % Microelectronics, Electronics and Electronic Technology, Opatija, Croatia, 27 Sept.-1 Oct. 2021; IEEE, 2021. % Data were generated using the procedure described in [27]. % Also, the data were saved into files "ukupni_signal.mat" and "signali_volume.mat".	/	Data generation and drawing procedure, Figure 7, Table 2, Figure 8, Figure 9