Functional Near-Infrared Spectroscopy as a Target Navigator for rTMS Modulation in Patients with Hemiplegia: A Randomized Control Study

Pang-Wei Chang, MD\textsuperscript{a}, Chia-Feng Lu, PhD\textsuperscript{b,c}, Shin-Tsu Chang, MD, MS, PhD\textsuperscript{d}, Po-Yi Tsai, MD\textsuperscript{a,e,*}

\textbf{a.} Department of Physical Medicine and Rehabilitation, Taipei Veterans General Hospital, Taipei, Taiwan

\textbf{b.} Department of Biomedical Imaging and Radiological Sciences, School of Biomedical Science and Engineering, National Yang Ming Chiao Tung University, Taipei, Taiwan

\textbf{c.} Institute of Biophotonics, National Yang Ming Chiao Tung University, Taipei, Taiwan

\textbf{d.} Department of Physical Medicine and Rehabilitation, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan

\textbf{e.} School of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan
Corresponding author:

Po-Yi Tsai, MD

Division Chief of Neurorehabilitation, Department of Physical Medicine and Rehabilitation, Taipei Veterans General Hospital, Taipei, Taiwan.

School of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan

No. 201, Shih- Pai Rd, Sec. 2, Taipei, 11217 Taiwan.

Telephone: +886 2 28757293, +886 9 38591978

Fax: +886 2 2875 7359

Email: pytsai@vghtpe.gov.tw
Figure S1. The topographic plots of HbO and HbR block-average signals for all the
recorded channels with or without the motion correction. (a) The block-average signals without any motion correction. (b) The signals with the wavelet-based motion correction. (c) The signals with the wavelet-based motion correction followed by the CBSI. The negative correlation between HbO and HbR profiles and the most vigorous HbO response at S4-D7 can be observed after the CBSI process.