

**Table S1.** Effects of electrical conductivity on the electric field strength.

The average electric field strength over the four regions of interest was calculated when the conductivities of bone and CSF were altered from the default values. Data are presented as mean and  $\pm$  standard deviation over 62 head models. The value in parentheses indicates the number of individual head models for which the electrode configuration was optimal.

|             |               | Average electric field strength |                      |                      |                      |                      |
|-------------|---------------|---------------------------------|----------------------|----------------------|----------------------|----------------------|
| Electrode 1 | Electrode 2   | Default conductivity            | Bone conductivity    |                      | CSF conductivity     |                      |
|             |               |                                 | −50%                 | +50%                 | −10%                 | +10%                 |
| Fz          | Extracerebral | 0.36 $\pm$ 0.05 (0)             | 0.34 $\pm$ 0.05 (0)  | 0.37 $\pm$ 0.06 (0)  | 0.38 $\pm$ 0.05 (0)  | 0.35 $\pm$ 0.05 (0)  |
| FCz         | Extracerebral | 0.49 $\pm$ 0.08 (0)             | 0.44 $\pm$ 0.07 (0)  | 0.52 $\pm$ 0.08 (0)  | 0.51 $\pm$ 0.08 (0)  | 0.47 $\pm$ 0.08 (0)  |
| Cz          | Extracerebral | 0.57 $\pm$ 0.09 (0)             | 0.50 $\pm$ 0.08 (0)  | 0.61 $\pm$ 0.10 (0)  | 0.60 $\pm$ 0.09 (0)  | 0.55 $\pm$ 0.09 (0)  |
| CPz         | Extracerebral | 0.53 $\pm$ 0.09 (0)             | 0.48 $\pm$ 0.08 (0)  | 0.57 $\pm$ 0.10 (0)  | 0.57 $\pm$ 0.09 (0)  | 0.52 $\pm$ 0.09 (0)  |
| Pz          | Extracerebral | 0.44 $\pm$ 0.07 (0)             | 0.40 $\pm$ 0.07 (0)  | 0.47 $\pm$ 0.08 (0)  | 0.47 $\pm$ 0.07 (0)  | 0.43 $\pm$ 0.07 (0)  |
| Fz          | Iz            | 0.47 $\pm$ 0.06 (0)             | 0.43 $\pm$ 0.06 (0)  | 0.49 $\pm$ 0.07 (0)  | 0.49 $\pm$ 0.06 (0)  | 0.46 $\pm$ 0.06 (0)  |
| FCz         | Iz            | 0.56 $\pm$ 0.08 (0)             | 0.50 $\pm$ 0.07 (0)  | 0.60 $\pm$ 0.09 (0)  | 0.59 $\pm$ 0.08 (0)  | 0.55 $\pm$ 0.08 (0)  |
| Cz          | Iz            | 0.60 $\pm$ 0.09 (1)             | 0.52 $\pm$ 0.08 (2)  | 0.64 $\pm$ 0.10 (2)  | 0.63 $\pm$ 0.09 (1)  | 0.58 $\pm$ 0.09 (1)  |
| CPz         | Iz            | 0.50 $\pm$ 0.08 (0)             | 0.45 $\pm$ 0.08 (0)  | 0.54 $\pm$ 0.09 (0)  | 0.54 $\pm$ 0.09 (0)  | 0.49 $\pm$ 0.09 (0)  |
| Pz          | Iz            | 0.36 $\pm$ 0.06 (0)             | 0.32 $\pm$ 0.06 (0)  | 0.38 $\pm$ 0.07 (0)  | 0.38 $\pm$ 0.06 (0)  | 0.35 $\pm$ 0.06 (0)  |
| Fz          | Fpz           | 0.17 $\pm$ 0.04 (0)             | 0.16 $\pm$ 0.03 (0)  | 0.18 $\pm$ 0.04 (0)  | 0.18 $\pm$ 0.04 (0)  | 0.16 $\pm$ 0.04 (0)  |
| FCz         | Fpz           | 0.35 $\pm$ 0.07 (0)             | 0.31 $\pm$ 0.06 (0)  | 0.37 $\pm$ 0.08 (0)  | 0.37 $\pm$ 0.07 (0)  | 0.34 $\pm$ 0.07 (0)  |
| Cz          | Fpz           | 0.52 $\pm$ 0.09 (0)             | 0.46 $\pm$ 0.08 (0)  | 0.56 $\pm$ 0.10 (0)  | 0.55 $\pm$ 0.10 (0)  | 0.50 $\pm$ 0.10 (0)  |
| CPz         | Fpz           | 0.59 $\pm$ 0.09 (2)             | 0.52 $\pm$ 0.09 (3)  | 0.63 $\pm$ 0.10 (2)  | 0.62 $\pm$ 0.10 (2)  | 0.57 $\pm$ 0.10 (2)  |
| Pz          | Fpz           | 0.56 $\pm$ 0.08 (0)             | 0.51 $\pm$ 0.07 (0)  | 0.60 $\pm$ 0.08 (0)  | 0.60 $\pm$ 0.08 (0)  | 0.55 $\pm$ 0.08 (0)  |
| POz         | Fpz           | 0.49 $\pm$ 0.06 (0)             | 0.46 $\pm$ 0.06 (0)  | 0.51 $\pm$ 0.06 (0)  | 0.52 $\pm$ 0.06 (0)  | 0.48 $\pm$ 0.06 (0)  |
| Fz          | POz           | 0.61 $\pm$ 0.08 (0)             | 0.55 $\pm$ 0.07 (3)  | 0.64 $\pm$ 0.08 (0)  | 0.64 $\pm$ 0.08 (0)  | 0.59 $\pm$ 0.08 (0)  |
| FCz         | POz           | 0.65 $\pm$ 0.09 (32)            | 0.56 $\pm$ 0.08 (23) | 0.70 $\pm$ 0.09 (29) | 0.68 $\pm$ 0.09 (29) | 0.63 $\pm$ 0.09 (33) |
| Cz          | POz           | 0.59 $\pm$ 0.08 (1)             | 0.49 $\pm$ 0.07 (0)  | 0.64 $\pm$ 0.09 (1)  | 0.61 $\pm$ 0.08 (1)  | 0.57 $\pm$ 0.08 (1)  |
| CPz         | POz           | 0.37 $\pm$ 0.06 (0)             | 0.30 $\pm$ 0.05 (0)  | 0.41 $\pm$ 0.07 (0)  | 0.39 $\pm$ 0.06 (0)  | 0.36 $\pm$ 0.06 (0)  |
| Fz          | Pz            | 0.64 $\pm$ 0.09 (22)            | 0.57 $\pm$ 0.08 (31) | 0.69 $\pm$ 0.10 (14) | 0.68 $\pm$ 0.09 (25) | 0.63 $\pm$ 0.09 (22) |
| FCz         | Pz            | 0.63 $\pm$ 0.09 (4)             | 0.53 $\pm$ 0.08 (0)  | 0.69 $\pm$ 0.10 (14) | 0.67 $\pm$ 0.09 (4)  | 0.62 $\pm$ 0.09 (3)  |
| Cz          | Pz            | 0.48 $\pm$ 0.07 (0)             | 0.37 $\pm$ 0.06 (0)  | 0.53 $\pm$ 0.08 (0)  | 0.50 $\pm$ 0.07 (0)  | 0.46 $\pm$ 0.07 (0)  |