



Supplementary Figure 1. Flowchart of the study. tACS, transcranial alternating current stimulation.

Supplementary Table 1. Medication history (dosage, duration) of seven patients

Patient #	Medication history (dosage, duration)
1	Paroxetine (40 mg/d, 5 months), Escitalopram (20 mg/d, 4 months), Mirtazapine (15 mg/d, 3 months), Olanzapine (5 mg/d, 3 months), Agomelatine (50 mg/d, 3 months), Milnacipran (200 mg/d, 6 months)
2	Paroxetine (40 mg/d, 5 months), Escitalopram (20 mg/d, 5 months), Mirtazapine (30 mg/d, 4 months), Olanzapine (5 mg/d, 3 months), Duloxetine (60 mg/d, 4 months)
3	Paroxetine (40 mg/d, 6 months), Fluoxetine (40 mg/d, 4 months), Venlafaxine (150 mg/d, 3 months), Olanzapine (5 mg/d, 3 months)
4	Sertraline (150 mg/d, 4 months), Paroxetine (40 mg/d, 5 months), Duloxetine (80 mg/d, 3 months), Olanzapine (5 mg/d, 4 months)
5	Sertraline (150 mg/d, 3 months), Escitalopram (20 mg/d, 8 months), Duloxetine (60 mg/d, 4 months), Olanzapine (5 mg/d, 5 months)
6	Fluoxetine (40 mg/d, 3 months), Venlafaxine (150 mg/d, 6 months), Agomelatine (25 mg/d, 4 months), Duloxetine (60 mg/d, 6 months)
7	Paroxetine (40 mg/d, 3 months), Mirtazapine (15 mg/d, 8 months), Duloxetine (60 mg/d, 6 months), Quetiapine (200 mg/d, 3 months)

Supplementary Table 2. Adverse events during the study

Type of adverse event	Session (details)	Patient #
CQ-CES		
Headache	The 38 th session (persisted for 10minutes, resolution with a 10-minute break)	1
Aurium tinnitus	-	-
Tinnitus cerebri	The 32 nd session (persisted for 3minutes, resolution with a 20-minute break)	1
Nausea	-	-
Dizziness	The 15 th session (transient, resolution with a 20-minute break)	2
Fatigue	-	-
Poor concentration	-	-
Sleepiness	-	-
Skin redness	-	-
Itches	-	-
Skin tingling	-	-
Burning sensations	-	-
Neck pain	-	-
Electric shock-like sensations	-	-
Scalp pain	-	-
Numbness	-	-
Acute mood disorders	-	-
Other (flickering)	The 31 st session (transient, resolution with a 20-minute break)	1
YMRS		
Manic	Baseline: six patients scored 1 and one scored 2; Week 4: four scored 1, two scored 2, and one scored 3.	-
EEG		
Epileptic seizure	None.	-

Abbreviations: CQ-CES, 18 items common questionnaire on cranial electrical stimulation; YMRS, Young Mania Rating Scale; EEG, electroencephalogram.