

### Supporting Information

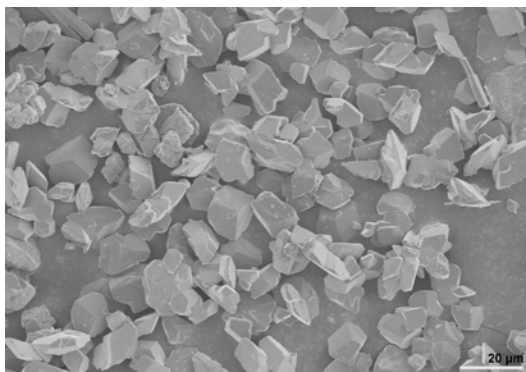
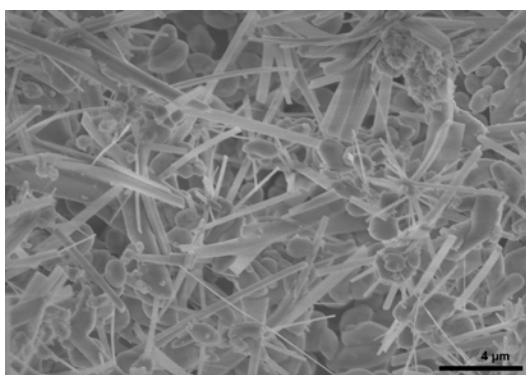


Figure S1. SEM images of  $\alpha$ -CSH powder synthesized by solution phase transformation process.



5 Figure S2. SEM image showing the surface morphology of the pure gypsum cement.

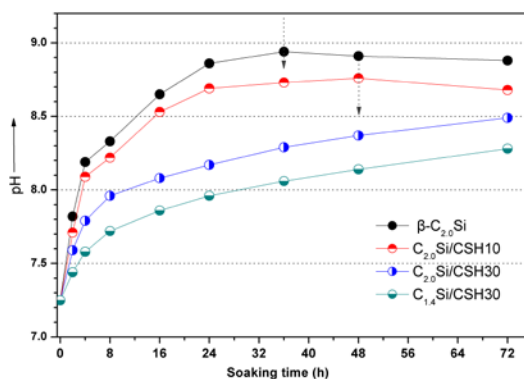


Figure S3. Changes in pH value in the SBF during soaking the cement-filled teeth.

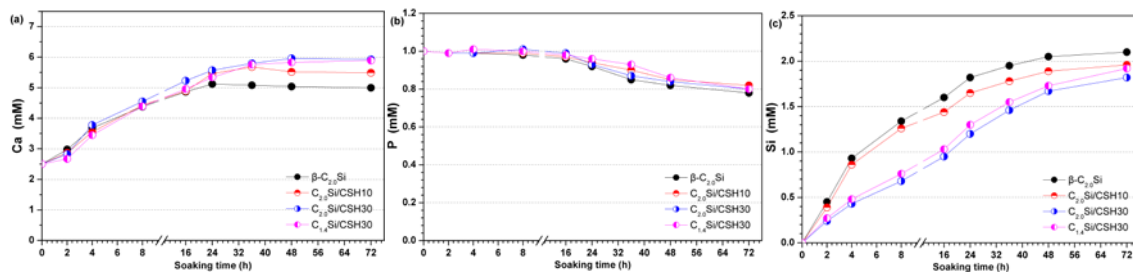


Figure S4. Changes in ion concentration in the SBF medium during soaking the cement-filled teeth.

**Table S1.** Effect of CSH on the setting time of paste.

Sample	Initial ( <i>I</i> )	Final ( <i>F</i> )
$\beta$ -C <sub>2,0</sub> Si	38	65
C <sub>2,0</sub> Si/CSH10	36	57
C <sub>2,0</sub> Si/CSH20	30	44
C <sub>2,0</sub> Si/CSH30	22	26