

Video 1. The test of eighty green LEDs lighted by PCA-loaded TEGs.

Video 2. The test of wristwatch driven by PCA-loaded TEGs.

Video 3. The test of commercial digital calculator driven by PCA-loaded TEGs.

Video 4. The test of commercial hygromograph driven by PCA-loaded TEGs.

The output electricity generated by PCA-loaded TEGs have been also applied to light up commercial LEDs, the eighty green LEDs can be gradually lighted up and the high brightness can remain for quite a long time. In the previous relevant studies, only one LED lamp was lighted. However, in this study, the PCA-loaded TEGs can not only light up eighty green LEDs, but also instantly drive wristwatch, commercial digital calculator, and commercial hygromograph.

Video 5. Comparison of the sustainable lighting time of the eighty green LEDs directly powered by PCA-loaded TEGs and blank one, respectively.

The sustainable lighting time of the eighty green LEDs directly powered by PCA-loaded TEGs (80 seconds) is about 4 times longer than that of blank one (20 seconds).