Simple Chemical Synthesis of Intermetallic Pt₂Y Bulk Nanopowder

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Fig. S1: SEM images of the reduced Pt₂Y bulk nanopowder.
Figure S2 | TEM images of the reduced Pt-Y bulk nanopowder.
Figure S3: Zoomed TEM images of the reduced Pt\textsubscript{2}Y bulk nanopowder.
Fig. S4 Elemental mapping of Pt, Y and O on reduced Pt$_2$Y bulk nanopowder by SEM-EDS analysis.
Fig. S5: Elemental analysis of 2 different positions on the Pt₃Y bulk nanopowder by SEM-EDS analysis.

Pt/Y/O/Ca/Si [molar ratio]
= 4.5/1.0/2.9/<0.4/<0.4

Pt/Y/O/Ca/Si [molar ratio]
= 4.5/1.0/2.1/<0.5/<0.2
Figure S6: Elemental analysis result in the reduced Pt$_2$Y bulk nanopowder by TEM-EDS. The measured location is inside of a yellow square in Fig. 3. Copper-based micro grids (NP-C15 (Lacy Carbon film), Okenshoji Co., Ltd.) were used to fix the sample powder and therefore non-identified signals in the figure are mainly due to the cupper.

Pt/Y/Ca/O [molar ratio] = 3.8/1.0/0.4/0.1
Figure S7: Elemental analysis result in the reduced Pt₂Y bulk nanopowder by TEM-EDS. The measured location is inside of a yellow square. Copper-based micro grids (NP-C15 (Lacy Carbon film), Okenshoji Co., Ltd.) were used to fix the sample powder and non-identified signals in the figure are mainly due to the cupper. An allow indicates the position of a platinum particle.

Pt/Y/Ca/O [molar ratio] = 33.3/1.0/0.6/0.3
Fig. S8 (a) Adsorption and desorption isotherms of nitrogen and (b) the pore size distributions for the Pt$_2$Y bulk nanopowder. The pore size distribution was analysed from the measured isotherms using the Barrett, Joyner, and Halenda (BJH) method.