Supporting Information

Mechanistic Study in Gold Nanoparticle Synthesis through Microchip Laser Ablation in Organic Solvents

Barana Sandakelum Hettiarachchi,[1] Yusuke Takaoka,[2] Yuta Uetake,[1,3] Yumi Yakiyama,[1,3,*] and Hiroshi Y. Yoshikawa,[2] Mihoko Maruyama,[4] Hidehiro Sakurai[1,3,*]

[1]Division of Applied Chemistry, Graduate School of Engineering, Osaka University, 2-1 Yamada-oka, Suita, Osaka 565-0871, Japan

[2]Department of Applied Physics, Graduate School of Engineering, Osaka University, 2-1 Yamada-oka, Suita, Osaka 565-0871, Japan.

[3]Innovative Catalysis Science Division, Institute for Open and Transdisciplinary Research Initiatives (ICS-OTRI), Osaka University, 2-1 Yamada-oka, Suita, Osaka 565-0871, Japan

[4]Division of Electrical, Electronic and Infocommunications Engineering, Graduate School of Engineering, Osaka University, 2-1 Yamada-oka, Suita, Osaka 565-0871, Japan.

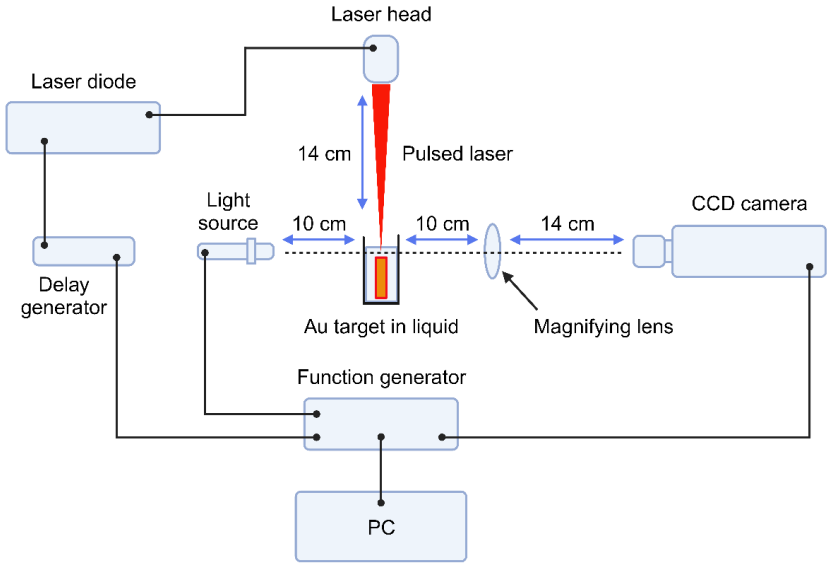

Figure S1. Experimental setup for monitoring the bubble formation with the aid of videography.

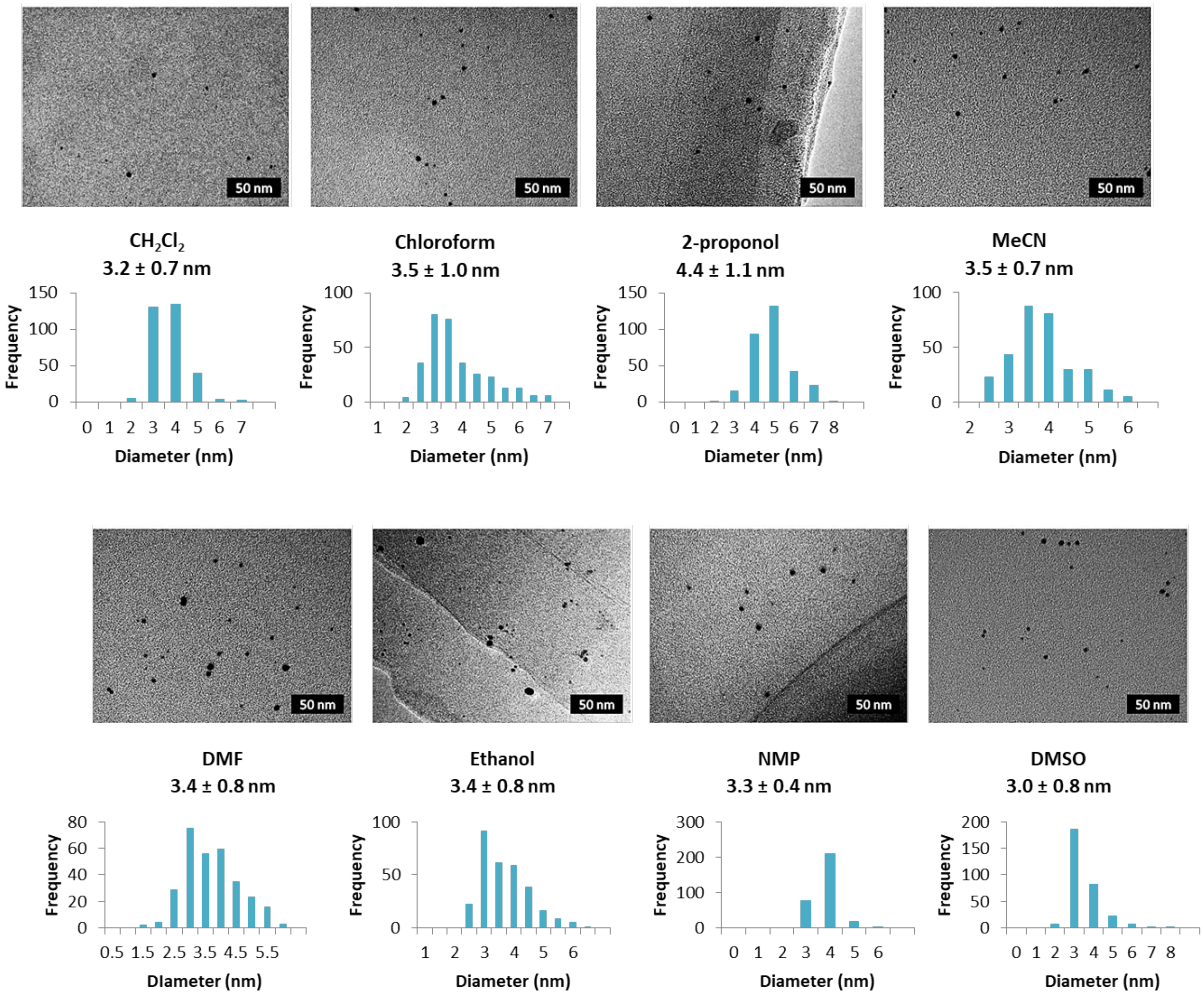

Figure S2. TEM images of Au:PVP (K-15) in organic solvents. Laser wavelength, 1064 nm; pulse energy, 1.8 mJ; pulse duration, 900 ps; average laser power, 180 mW; repetition rate, 100 Hz. Laser irradiation time was fixed in 60 min for all the samples.

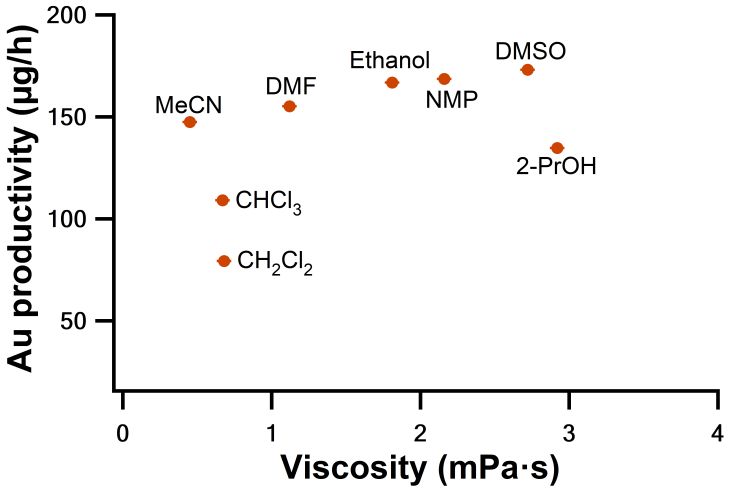

Figure S3. Viscosity effect on Au NPs productivity.

Table S1. Ablated total Au amount in the absence of PVP.

Solvent[a]	Au productivity (µg/h)
CH_2Cl_2	40.7
Chloroform	40.3
2-PrOH	125.3
MeCN	148.9
DMF	146.9
Ethanol	152.4
NMP	157.8
DMSO	183.8

[a] In organic solvent (15 mL).