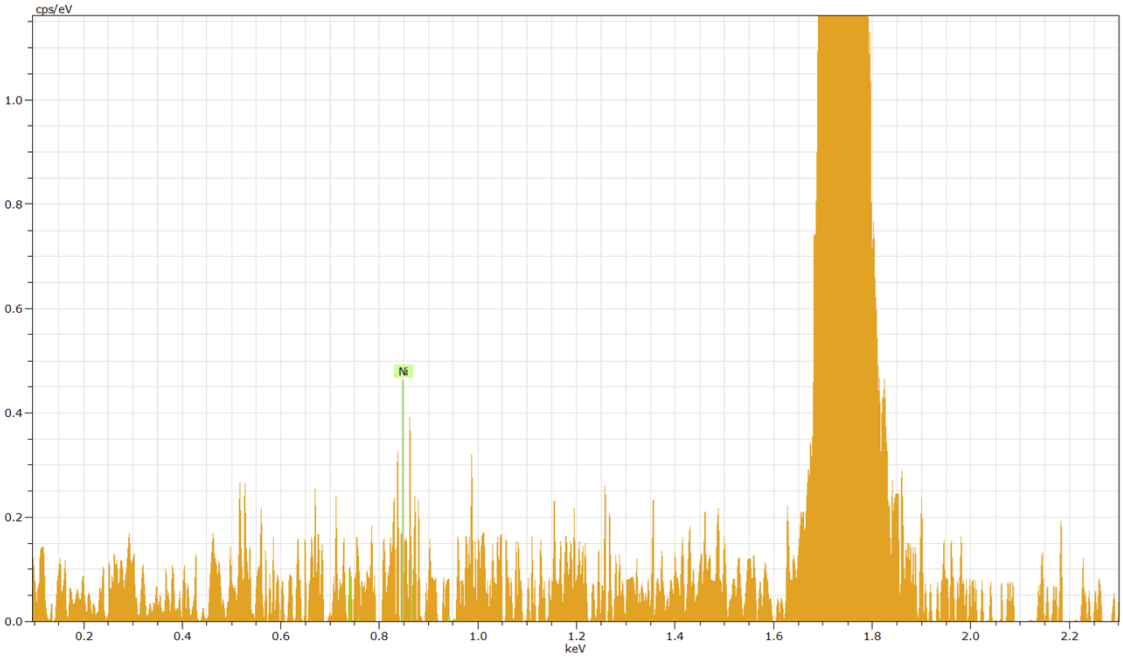
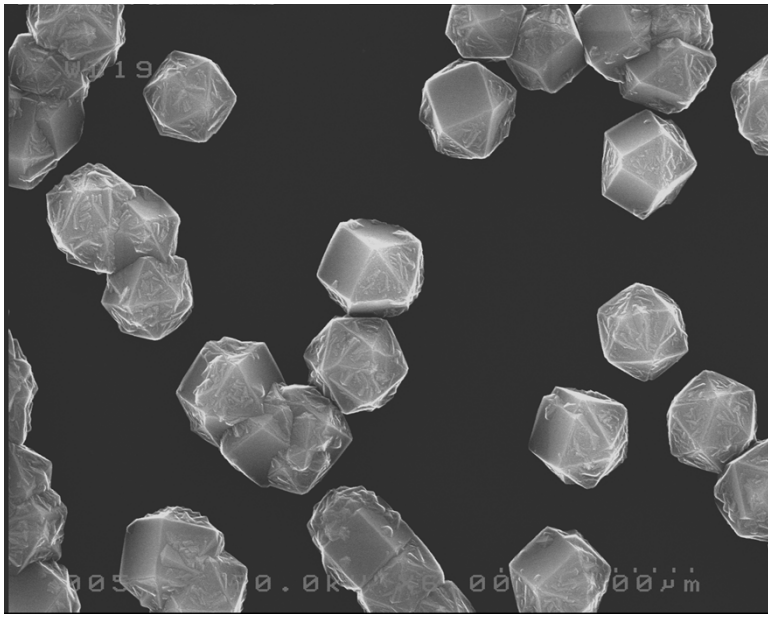
Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supplementary information



a)



b)

Fig. 1 EDX a) from the reported SEM image b) of diamond crystall grown by using Ni NPs. A small peak due to Ni atoms is detected, the large band at about 1.75 keV come from the Si substrate

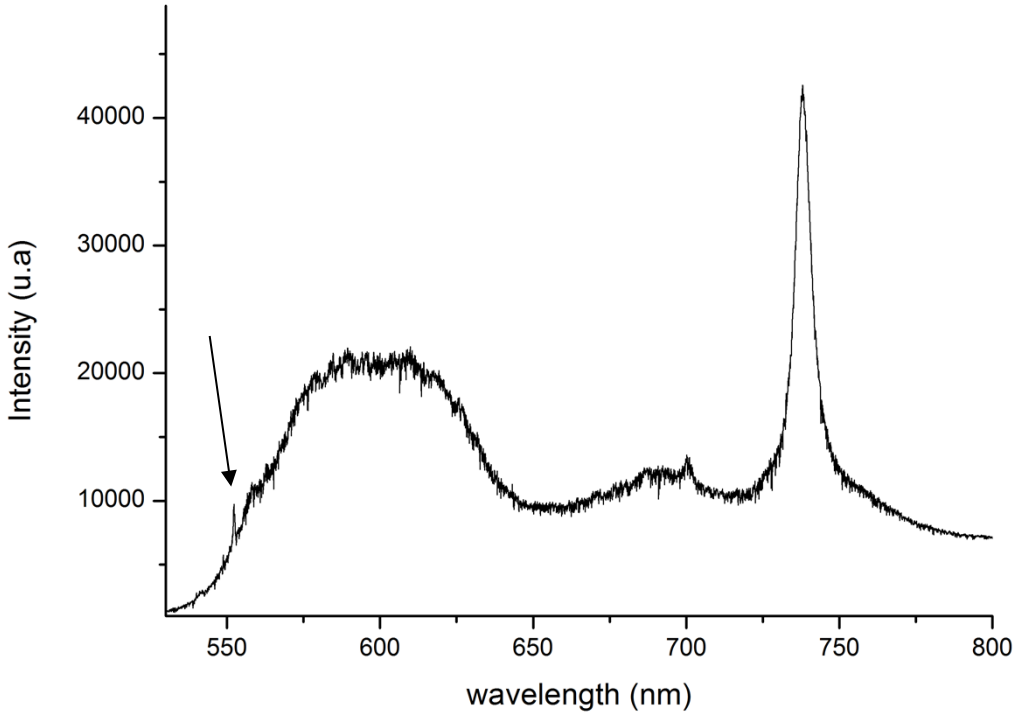


Fig.2 PL and Raman of CVD diamond film growth without Ni NP. The diamond Raman signal is indicated by the row.

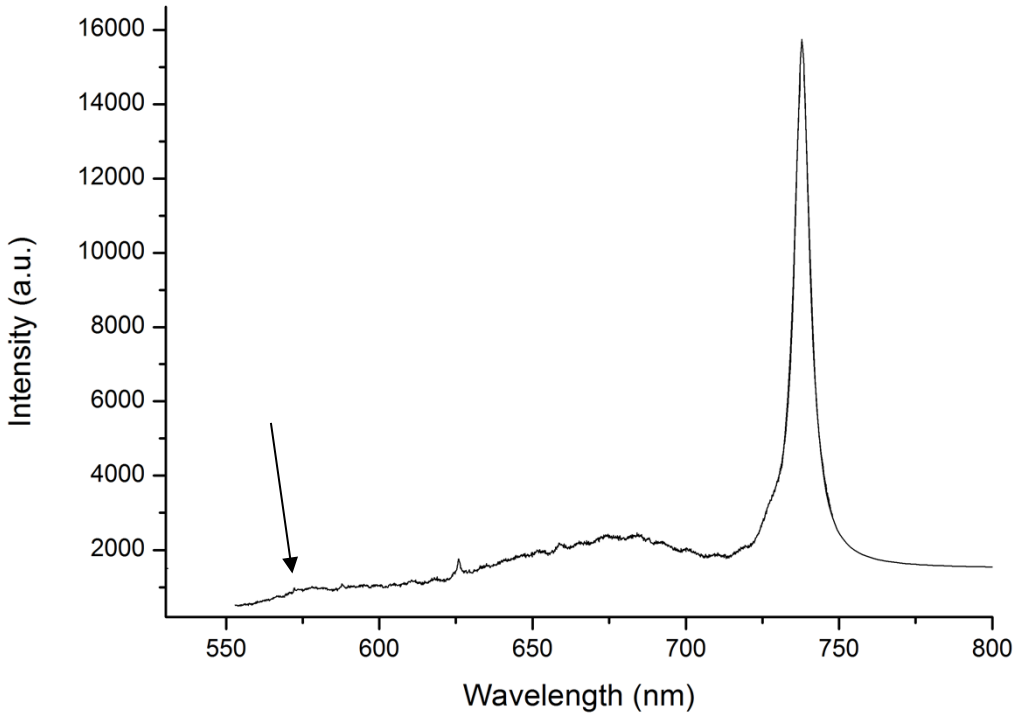


Fig.3 PL and Raman of CVD diamond film growth using Ni NP. The diamond Raman signal is signal is indicated by the row.

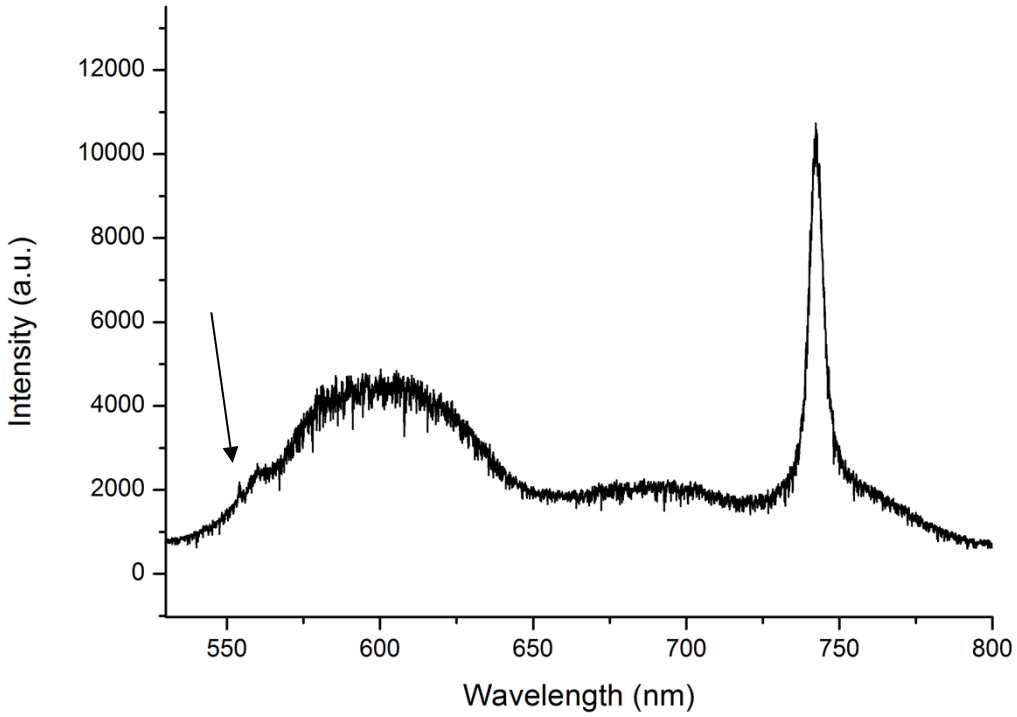


Fig. 4 PL and Raman of CVD diamond grains growth without Ni NP. The diamond Raman signal is signal is indicated by the row.

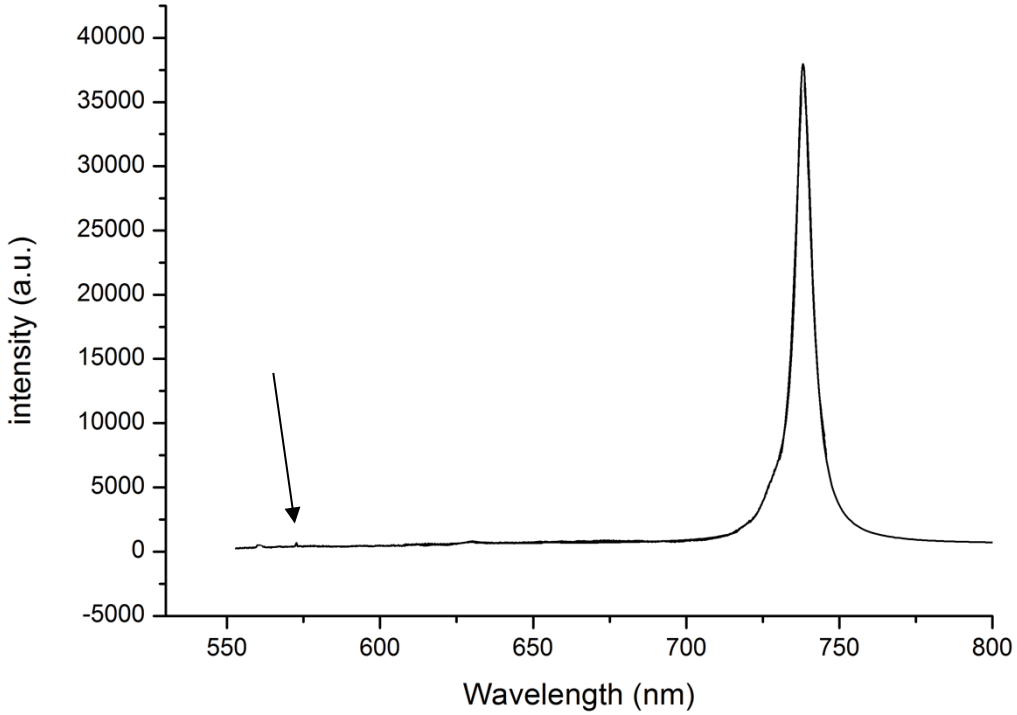


Fig. 5 PL and Raman of CVD diamond grains growth using Ni NP. The diamond Raman signal is signal is indicated by the row.