Plasma-enhanced Atomic Layer Deposition of Molybdenum Compounds Thin Films Using Mo(CO)₆ with Various Plasma Gases

Jeong-Hun Choi, Seung-Won Lee, Cheol-Min Hyun and Ji-Hoon Ahn

Department of Electronic Material Engineering, Korea Maritime and Ocean University,

E-mail: ajh1820@kmou.ac.kr

250 O* plasma MoO₃ 3d5/2 200 Thickness [nm] 150 Intensity MoS₂ Mo3d5/2 100 H₂S* plasma with O* plasma MoS, 200 250 300 350 400 450 215 220 240 245 # of cycles Binding Energy [eV] (b) (a)

Fig1. (a) Deposition rate of metallic Mo and MoO_3 thin films, (b) XPS spectra of MoO_3 , MoS_2 deposited by PEALD.