Electronic Supplementary Information

CNC-Al_2O_3-Ti: a new unit for micro scale strain sensing

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1. The stability of Ti film in air

Figure S1 shows the Raman spectra of Ti and TiO_2 film deposited on the silicon substrate. Four main peaks are observed in the Raman spectra of TiO_2: one at approximately 520 cm^{-1}, is the characteristic peak of the Si. The other three are at approximately 142 cm^{-1}, 395 cm^{-1} and 637 cm^{-1}, known as the peak of TiO_2. From the Raman spectra of the same Ti film deposited on a Si substrate as grown and a week after. It is found that there is no peak of TiO_2, only the peak of Si. This proves that Ti film is not easily oxidized in air.

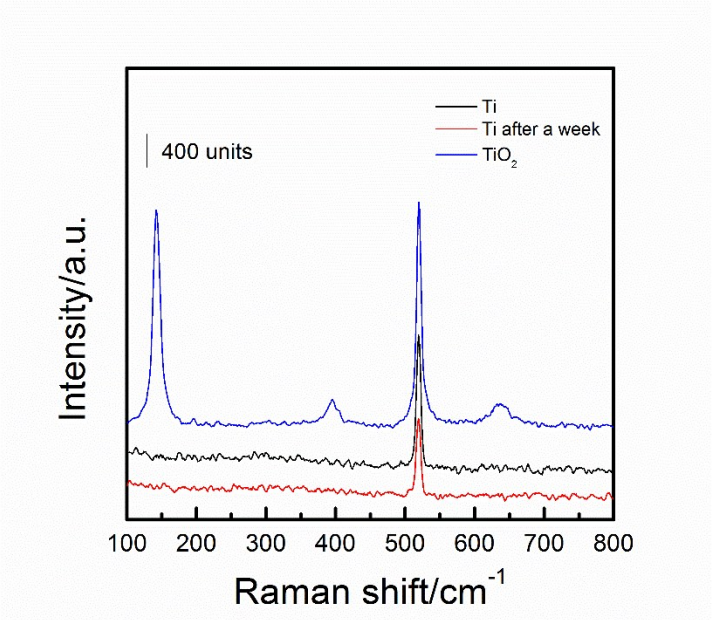

Figure S1. The Raman spectra of Ti and TiO_2 film on the silicon substrate