

Supporting Information

Optical and X-ray attenuation properties of hafnium oxide nanoparticle surface functionalized with fucoidan: toward early diagnosis of atherothrombotic diseases

Yasmine Sebti^a, Salim Si-Mohamed^{b,c}, Rachida Aid^{a,d}, Frederic Geinguenaud^a, Mohand Chahal^e, Yoann Lalatonne^{a,f}, Frederic Chaubet^a, Phalla Ou^{a,g} and Laurence Motte^{a*}

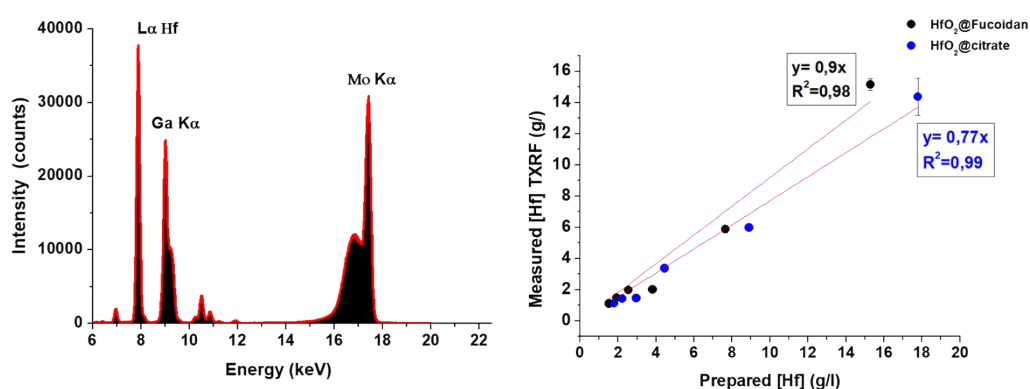


Figure SI. 1 Representative TXRF spectrum for HfO₂ NP sample and corresponding calibration curves for HfO₂@Fucoidan NPs (black spots) and HfO₂@citrate NPs (blue spots).

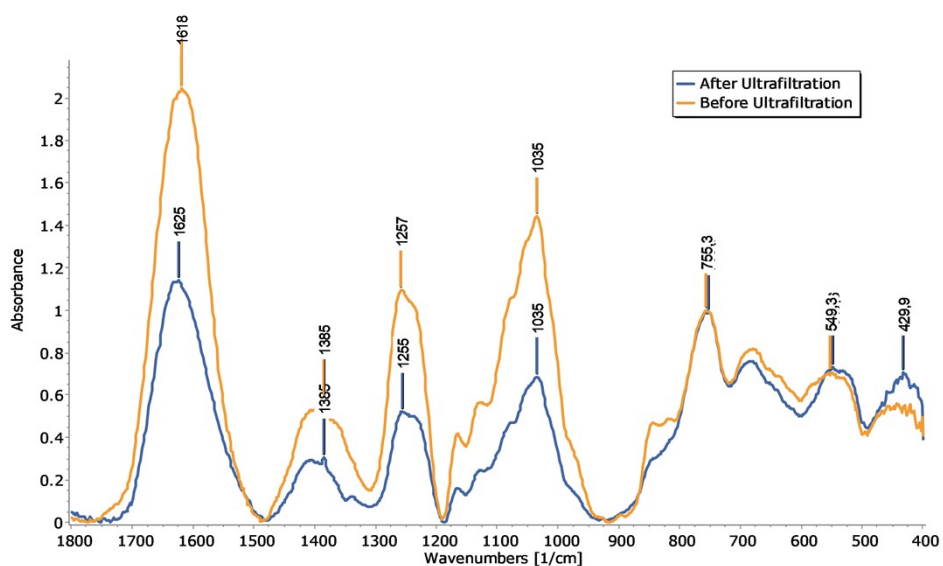


Figure SI. 2: FTIR spectra of HfO₂@Fucoidan NPs at the saturated ratio R=14 before and after ultrafiltration

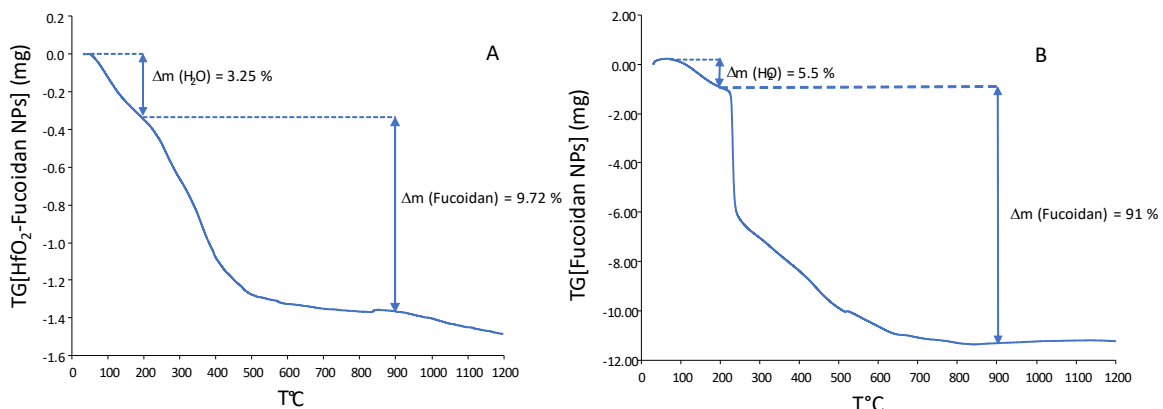


Fig SI. 3: Representative TGA Thermograms. Left : HfO_2 @Fucoidan NPs; Right : Fucoidan

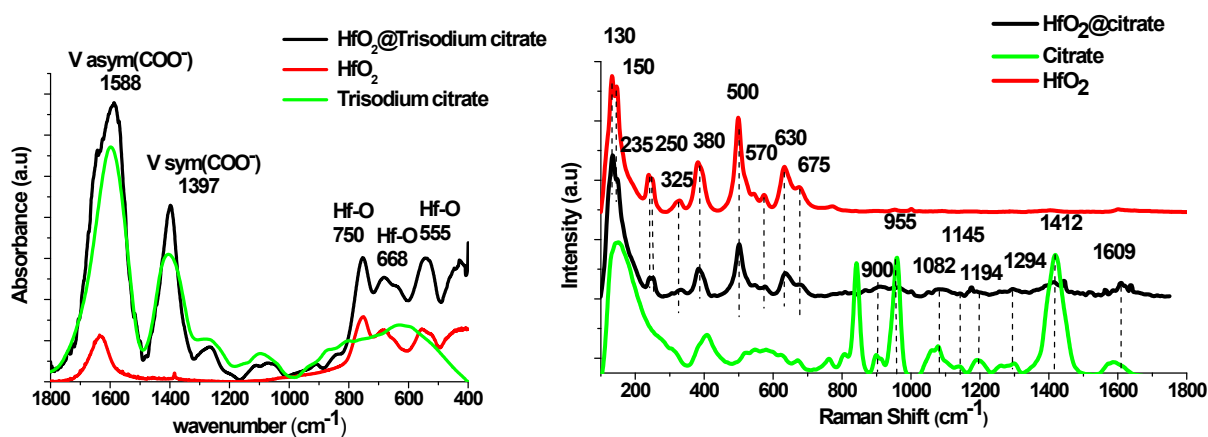


Fig SI. 4: FTIR (A) and Raman(B) spectra of HfO_2 NPs (red curve), citrate (green curve) and HfO_2 @citrate NPs (black curve)

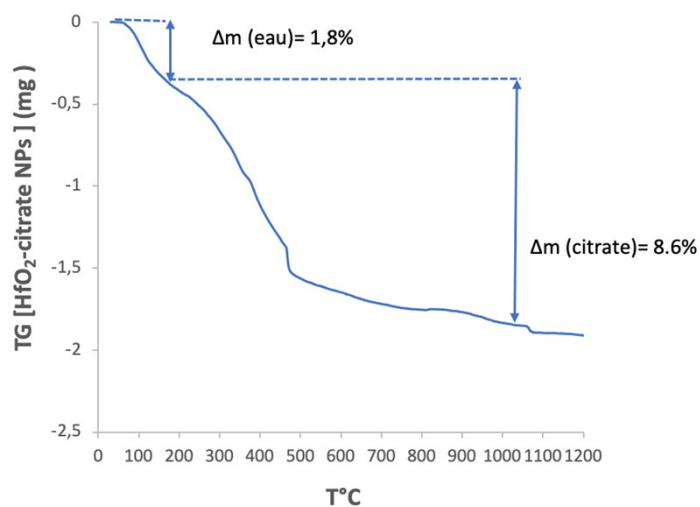


Fig SI. 5: Representative TGA Thermograms of HfO_2 @citrate.

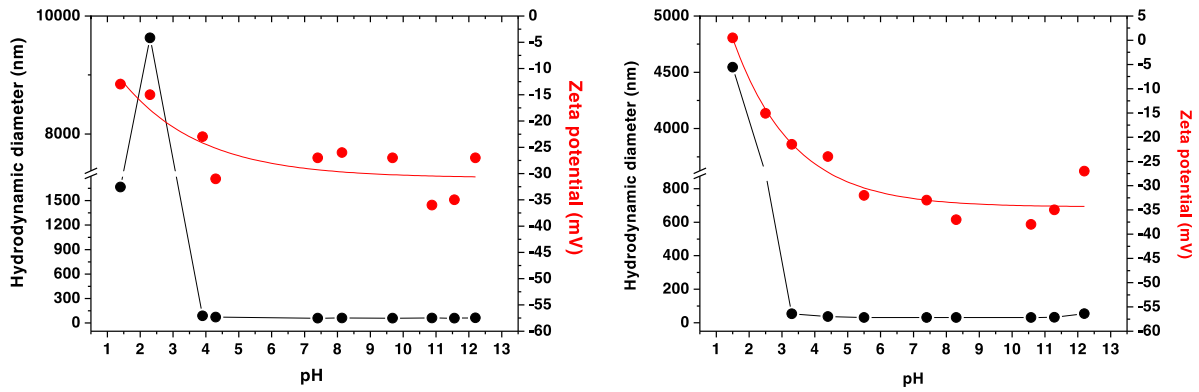


Fig SI. 6: pH stability Left : HfO₂@fucoidan; Right : HfO₂@ citrate

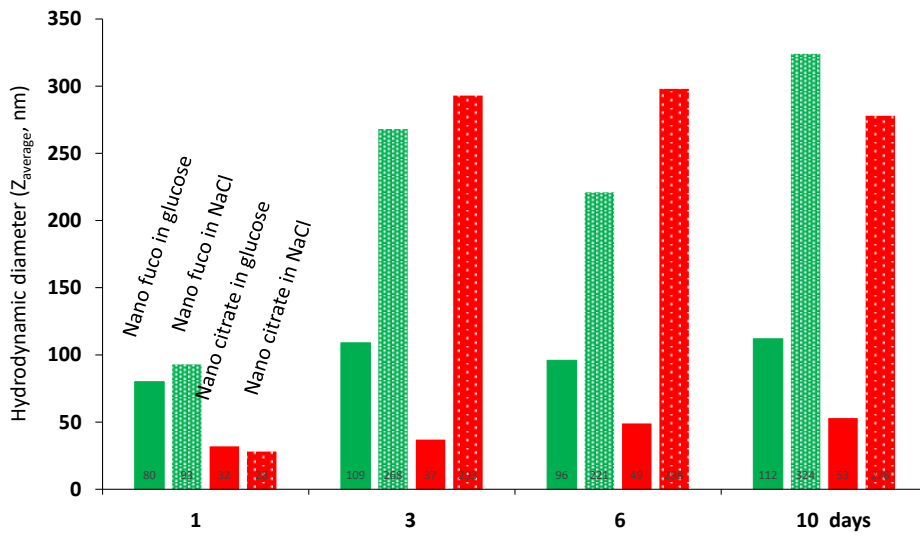


Fig. SI. 7: Stability of HfO₂ NPs@Fuco (green) and HfO₂@citrate (red) in glucose 5% and NaCl 0.9% during 1, 3, 6, and 10 days.

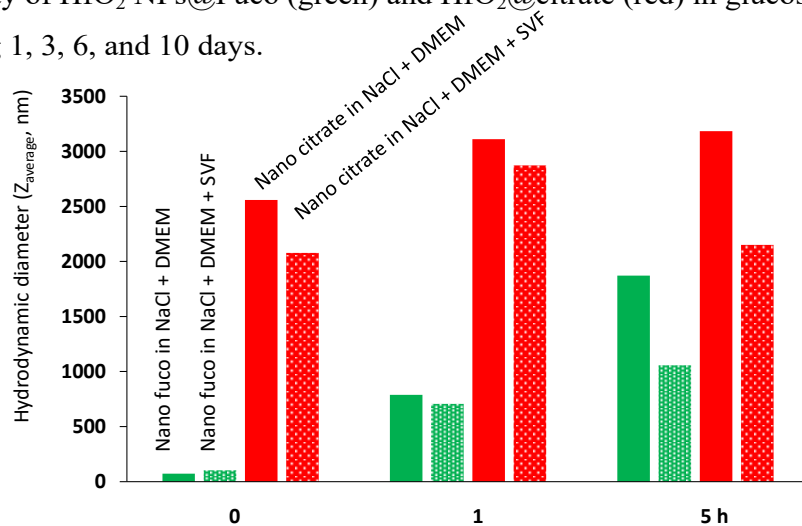


Fig. SI. 8: Stability of HfO₂ NPs@Fuco (green) and HfO₂@citrate (red) in DMEM and DMEM+ 10% FBS followed at different time point : 0h, 1h and 5h.

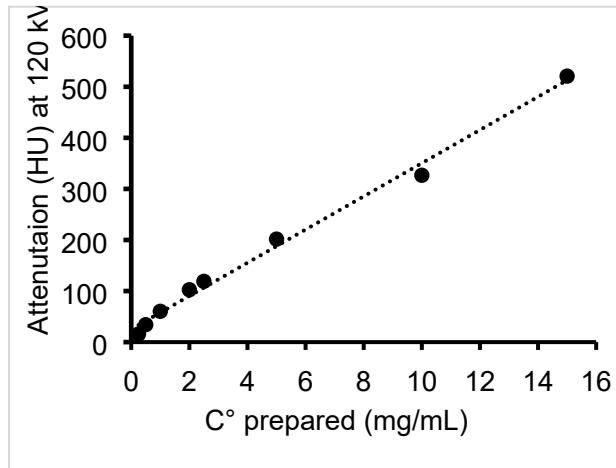


Fig. SI. 9: Attenuation rate measured with SPCCT system for commercial gadolinium based molecular agent: DOTAREM® (gadoterate meglumine; Guerbet, Villepinte, France).