

Table S1. The deconvolution spectrum data of XPS

sam ple s	C			O		N			Fe				
	Atom ic/%	B. E. / eV	Perc enta ge/%	Ato mic /%	B. E. /eV	Perce ntage/%	Atom ic/%	B. E. /eV	Perce ntage /%	Atom ic/%	B. E. / eV	Perc enta ge/%	
BP20 00	98.1	284.4	58.0	1.9	531.7	52.1	0			0			
		285.2	17.7		532.5	22.9							
		289.5	24.3		533.4	25.0							
Fe- N-C	89.4	284.3	37.3	6.3	530.4	31.6	3.2	398.2	27.7	1.0	710.7	21.9	
		284.7	32.0			398.9		21.3	711.3		27.9		
		285.8	17.0			399.5		15.4	712.5		23.2		
		289.3	13.8			531.7		49.1	400.3		17.6	718.6	1.1
						532.8		19.4	401.1		14.7	724.6	25.9
									403.1		3.3		