



Figure S2: ATR-IR spectroscopic acquisition of the biofilms on day 10. Sections a) - c) indicate characteristic ranges of wave numbers with nearly similar position of the absorptions between the experiments E1 - E4 (1500 - 250 cm<sup>-1</sup>). FeCl<sub>2</sub> · 4 H<sub>2</sub>O served as reference chemical. Annotation: V1 = E1, V2 = E2, V3 = E3, V4 = E4. Band allocation and corresponding references are given below.

band location experiment (cm <sup>-1</sup> )	allocation	origin	band location literature (cm <sup>-1</sup> )	reference
3378	OH-stretch	Fe-OH	3378	Wei <i>et al.</i> (2012)
1641	OH-stretch	Fe-OH	3369	Wan Nor <i>et al.</i> (2018)
1595	OH-shift	FeOOH	1660	Mei <i>et al.</i> (2015)
1585	COO-Fe	Romanit	1630	Dutcher <i>et al.</i> (2011)
1479	CH <sub>2</sub>	Fe <sub>3</sub> O <sub>4</sub> nanoparticle	1595	Litescu <i>et al.</i> (2012)
1468	CH <sub>2</sub>		1587	Wei <i>et al.</i> (2011)
1416	COO-Fe	Fe <sub>3</sub> O <sub>4</sub> nanoparticle	1479	Unger (2009)
1392	-CH=CH-	Fe <sub>3</sub> O <sub>4</sub> nanoparticle	1466	Litescu <i>et al.</i> (2012)
1083	P-O-stretch	Iron oxide	1393	Wei <i>et al.</i> (2012)
	C-O-C-stretch		1412	Wei <i>et al.</i> (2012)
	Fe-OH-bend		1384	
			900-1200	Benyettou <i>et al.</i> (2012)
			1080	Filip <i>et al.</i> (2004)
			1076	
871	C-O	Eisen(III)phthalocyanin	1050-1100	Luther & Günzler (1955)
	OH-bend		865-894	Namduri & Nasrazadani (2008)
870	OH...O	$\alpha$ -FeO(OH)	883	Mei <i>et al.</i> (2015)
870	Fe-O-Fe	Fe <sub>2</sub> O <sub>3</sub>	960-870	Salzer <i>et al.</i>
853	OH-bend	$\beta$ -FeO(OH)	863	Ulfa & Ulfa (2019)
853	-H-		847	Mei <i>et al.</i> (2015)
716	C-N		850	Luther & Günzler (1955)
714	C=O		830-920	
713	C-C=O		750-620	Litescu <i>et al.</i> (2012)
700	C-H		900-700	Luther & Günzler (1955)
	NO <sub>2</sub>		680-740	
	OH-bend	-FeOOH	696	Mei <i>et al.</i> (2015)
582	Fe-O	Fe <sub>3</sub> O <sub>4</sub> -Nanopartikel	583	Sodipo & Azlan (2015)
			580	Wei <i>et al.</i> (2011)
			577	Hwang <i>et al.</i> (2014)
493	Fe-O-stretch	$\alpha$ -FeO(OH)	499	Malathi <i>et al.</i> (2017)
477	Fe-F	iron(III) phthalocyanine	475	Kalz & Homborg (1983)
297	Fe-Cl	iron(III) phthalocyanine	303	Kalz & Homborg (1983)
286				
236	Fe-Br	iron(III) phthalocyanine	221	Kalz & Homborg (1983)
217				
203	Fe-I	iron(III) phthalocyanine	193	Kalz & Homborg (1983)

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