

Cable bacteria filament name	Voltage drop:						Estimate of $\frac{[Ox]^a}{[Ox]^b}$					
MarineRattekaifila01	Width: 6,6 µm Lenght: 4,3 mm						Change from near sediment, to near oxyg Normalized value of red ^a Red ^{max} from laser cut experiment $\frac{[Ox]^a}{[Ox]^b} = \frac{[Red]^{max} - [Red]^a}{[Red]^{max} - [Red]^b}$ Voltage drop in mV per mm using alternate $\frac{[Ox]^a}{[Ox]^b}$					
	Suboxic zone near sediment, normalized intensity (Red ^a)	Suboxic zone near oxic zone, normalized intensity (Red ^b)	$\frac{[Red]^a}{[Red]^b}$	$\left(\frac{[Red]^a}{[Red]^b} / \frac{[Ox]^a}{[Ox]^b}\right)$	$\Delta E = 59mV \ln\left(\frac{[Red]^a}{[Red]^b} / \frac{[Ox]^a}{[Ox]^b}\right)$	Voltage drop in mV per mm						
Band 750	1869,698	630,903	2,964	6,338	47,315	11,004	0,337	1,000	1,946	0,588	9,637	
Band 1130	761,126	324,907	2,343	5,010	41,291	9,602	0,427	1,000	1,940	0,621	7,910	
Band 1315	560,181	165,269	3,390	7,249	50,756	11,804	0,295	1,000	2,060	0,601	10,311	
Band 1588	373,992	161,398	2,317	4,956	41,011	9,538	0,432	1,000	1,819	0,590	8,147	
Band 1497	94,530	38,091	2,482	5,308	42,769	9,946	0,403	1,000	1,916	0,605	8,407	
			$\frac{[Ox]^a}{[Ox]^b}$									
Band 1637	26,818	57,355	0,468									
							0,468	AVG		0,601	8,883	
MarineRattekaifila02	Width: 6,4 µm Lenght: 3 mm											
Band 750	2387,628	878,395	2,718	5,308	42,769	14,256	0,368	1,000	1,946	0,599	12,912	
Band 1130	1033,668	405,479	2,549	4,978	41,125	13,708	0,392	1,000	1,940	0,607	12,252	
Band 1315	816,651	238,243	3,428	6,693	48,713	16,238	0,292	1,000	2,060	0,600	14,892	
Band 1588	542,154	197,846	2,740	5,351	42,977	14,326	0,365	1,000	1,819	0,563	13,511	
Band 1497	144,452	44,774	3,226	6,300	47,160	15,720	0,310	1,000	1,916	0,570	14,801	
			$\frac{[Ox]^a}{[Ox]^b}$									
Band 1637	16,776	32,757	0,512									
							0,512	AVG		0,588	13,674	
MarineRattekaifila03	Width: 6,3 µm Lenght: 3 mm											
Band 750	1623,592	861,891	1,884	2,754	25,954	8,651	0,531	1,000	1,946	0,668	8,849	
Band 1130	704,585	419,649	1,679	2,454	23,005	7,668	0,596	1,000	1,940	0,699	7,482	
Band 1315	550,258	228,687	2,406	3,517	32,226	10,742	0,416	1,000	2,060	0,645	11,249	
Band 1588	402,769	209,304	1,924	2,813	26,500	8,833	0,520	1,000	1,819	0,630	9,531	
Band 1497	94,821	51,681	1,835	2,682	25,278	8,426	0,545	1,000	1,916	0,668	8,629	
			$\frac{[Ox]^a}{[Ox]^b}$									
Band 1637	40,429	59,097	0,684									
							0,684	AVG		0,662	9,148	
MarineRattekaifila04	Width: 6,5 µm Lenght: 2,7 mm											
Band 750	1983,237	1217,058	1,630	4,380	37,846	14,017	0,614	1,000	1,946	0,710	7,884	
Band 1130	855,210	380,704	2,246	6,038	46,071	17,063	0,445	1,000	1,940	0,629	12,083	
Band 1315	649,362	273,867	2,371	6,373	47,456	17,576	0,422	1,000	2,060	0,647	12,324	
Band 1588	435,210	171,092	2,544	6,837	49,257	18,243	0,393	1,000	1,819	0,575	14,120	
Band 1497	97,567	49,944	1,954	5,251	42,492	15,738	0,512	1,000	1,916	0,652	10,409	
			$\frac{[Ox]^a}{[Ox]^b}$									
Band 1637	4,816	12,943	0,372									
							0,372	AVG		0,643	11,364	
MarineRattekaifila06	Width: 4,7 µm Lenght: 3,3 mm											
Band 750	868,243	307,248	2,826	12,660	65,043	19,710	0,354	1,000	1,946	0,594	12,109	
Band 1130	383,667	143,133	2,680	12,009	63,690	19,300	0,373	1,000	1,940	0,600	11,624	
Band 1315	258,625	73,554	3,516	15,752	70,643	21,407	0,284	1,000	2,060	0,597	13,767	
Band 1588	174,631	64,894	2,691	12,056	63,791	19,330	0,372	1,000	1,819	0,566	12,106	
Band 1497	53,723	25,730	2,088	9,354	57,289	17,360	0,479	1,000	1,916	0,637	9,214	
			$\frac{[Ox]^a}{[Ox]^b}$									
Band 1637	9,341	41,848	0,223									
							0,223	AVG		0,599	11,764	
MarineRattekaifila07	Width: 5,7 µm Lenght: 2,1 mm											
Band 750	772,395	197,212	3,917	5,924	45,586	21,707	0,255	1,000	1,946	0,560	23,743	
Band 1130	761,126	324,907	2,343	3,543	32,416	15,436	0,427	1,000	1,940	0,621	16,196	
Band 1315	560,181	165,269	3,390	5,127	41,882	19,944	0,295	1,000	2,060	0,601	21,114	
Band 1588	373,992	161,398	2,317	3,505	32,137	15,303	0,432	1,000	1,819	0,590	16,683	
Band 1497	94,530	38,091	2,482	3,754	33,894	16,140	0,403	1,000	1,916	0,605	17,215	
			$\frac{[Ox]^a}{[Ox]^b}$									
Band 1637	56,367	85,262	0,661									
							0,661	Std Red ^{max}	0,077			
								AVG		0,595	18,990	
								Avg voltage drop in				
								0,487 mV per mm		0,615	12,304	
								0,160 std		0,037	3,833	
								Average $\frac{[Ox]^a}{[Ox]^b}$ std				
								14,625				
								4,101				