Article

Heavy Metal Immobilization Studies and Enhancement in Geotechnical Properties of Cohesive Soils by EICP Technique

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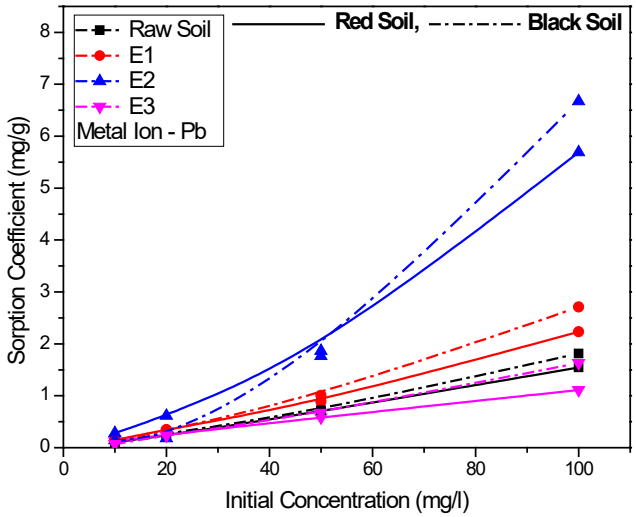


Figure S1. Sorption coefficients of Pb at different initial concentrations

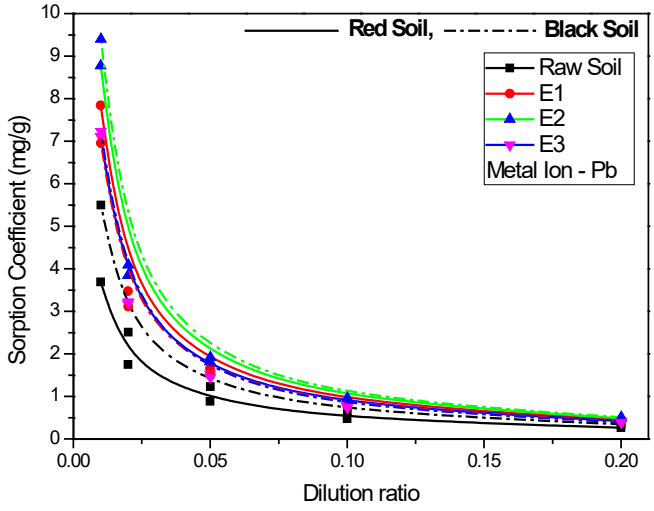


Figure S2. Sorption coefficients of Pb at different dilution ratios

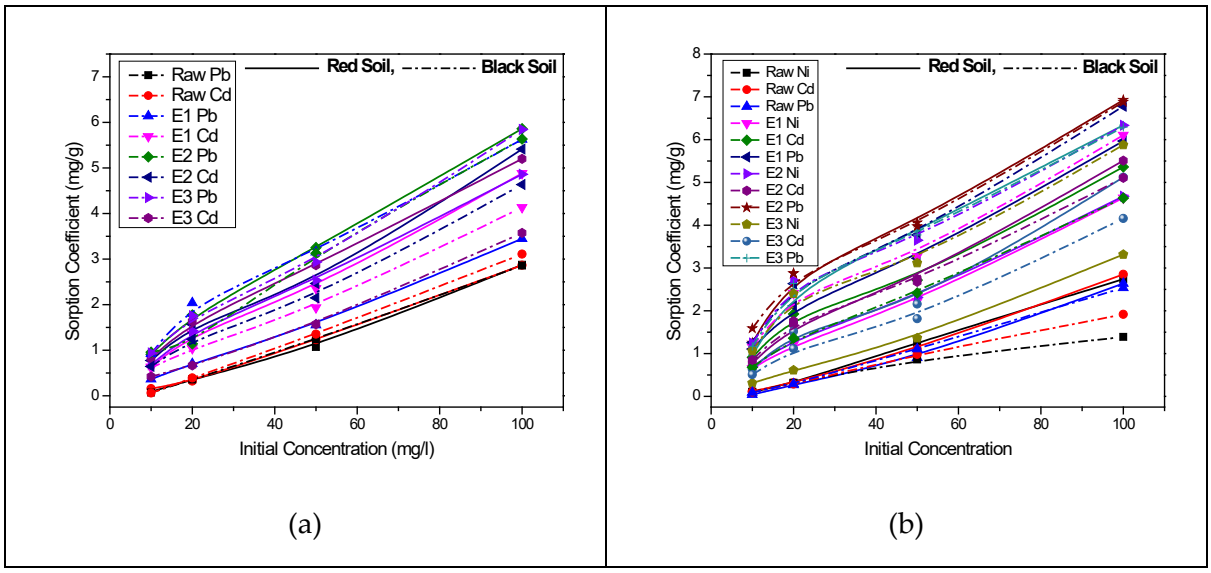


Figure S3. Sorption coefficients of (a) Pb+Cd and (b) Ni+Cd+Pb for different initial concentrations

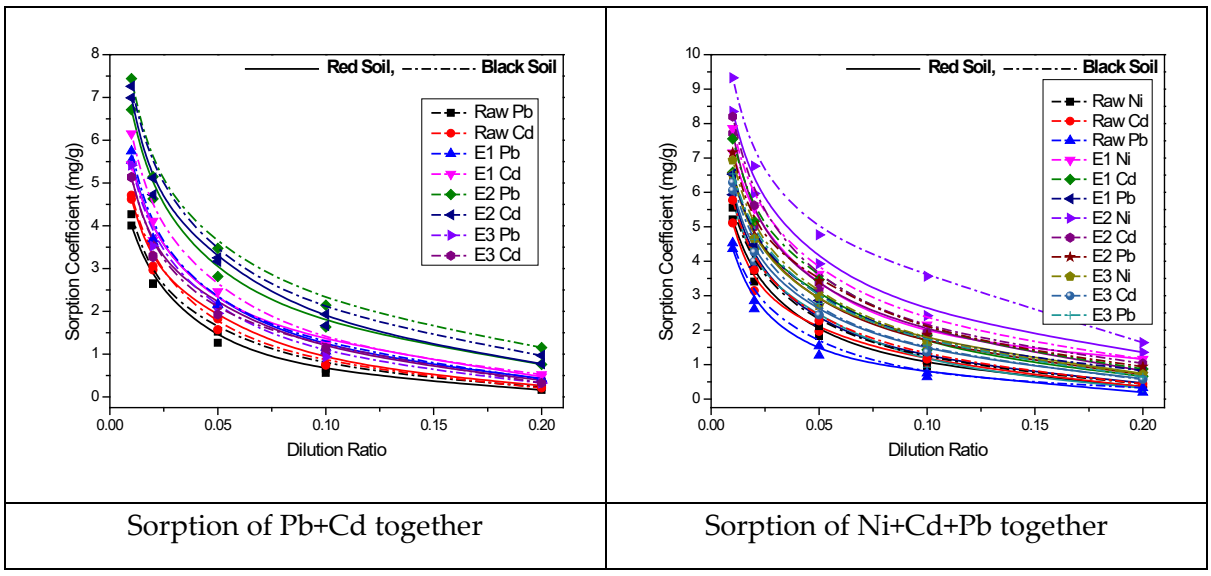


Figure S4. Sorption coefficients of (a) Pb+Cd and (b) Ni+Cd+Pb for different dilution ratios

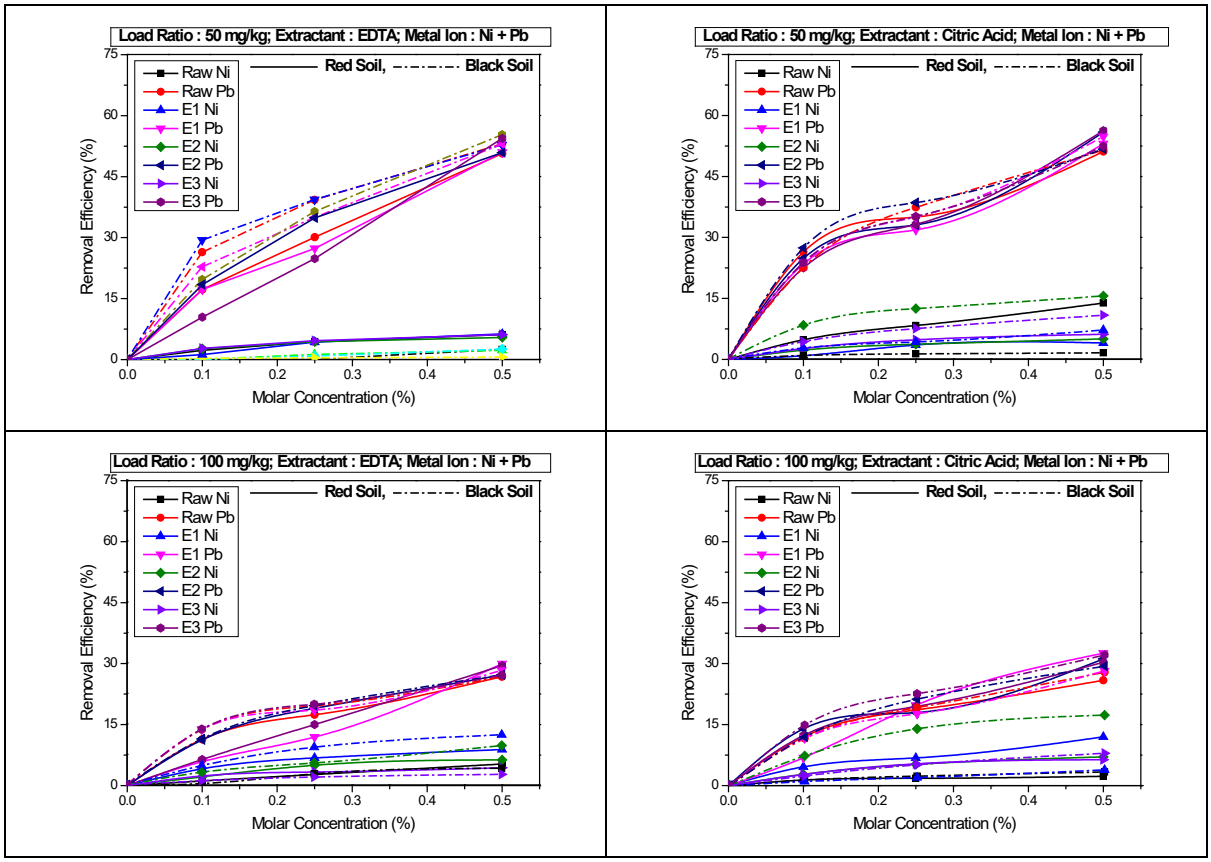


Figure S5. Removal Efficiencies of Ni+Pb spiked in both soils with, (a) 50 mg/l EDTA extractant, (b) 50 mg/l Citric acid Extractant (c) 100 mg/l EDTA extractant, (d) 100 mg/l Citric acid Extractant

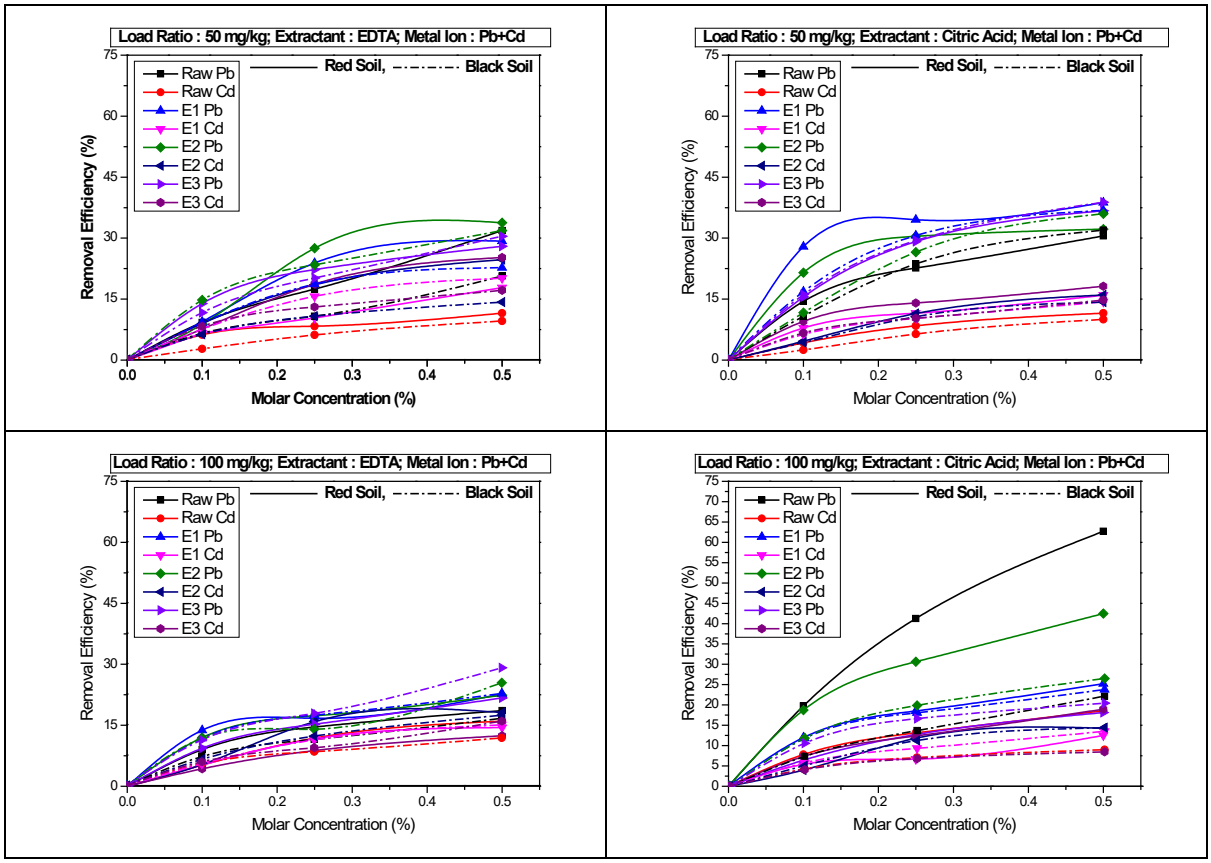


Figure S6. Removal Efficiencies of Pb+Cd spiked in both soils with, (a) 50 mg/l EDTA extractant, (b) 50 mg/l Citric acid Extractant (c) 100 mg/l EDTA extractant, (d) 100 mg/l Citric acid Extractant

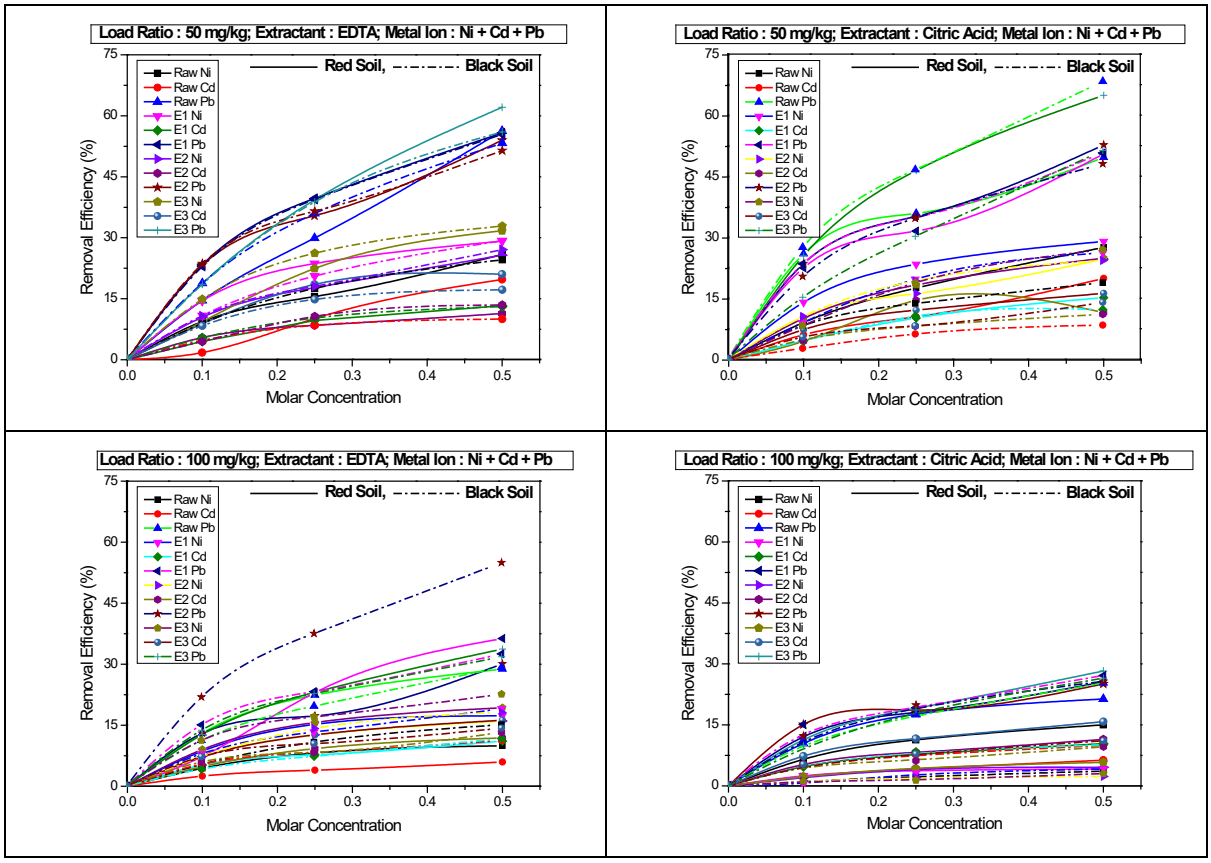


Figure S7. Removal Efficiencies of Ni+ Cd+Pb spiked in both soils with, (a) 50 mg/l EDTA extractant, (b) 50 mg/l Citric acid Extractant (c) 100 mg/l EDTA extractant, (d) 100 mg/l Citric acid Extractant

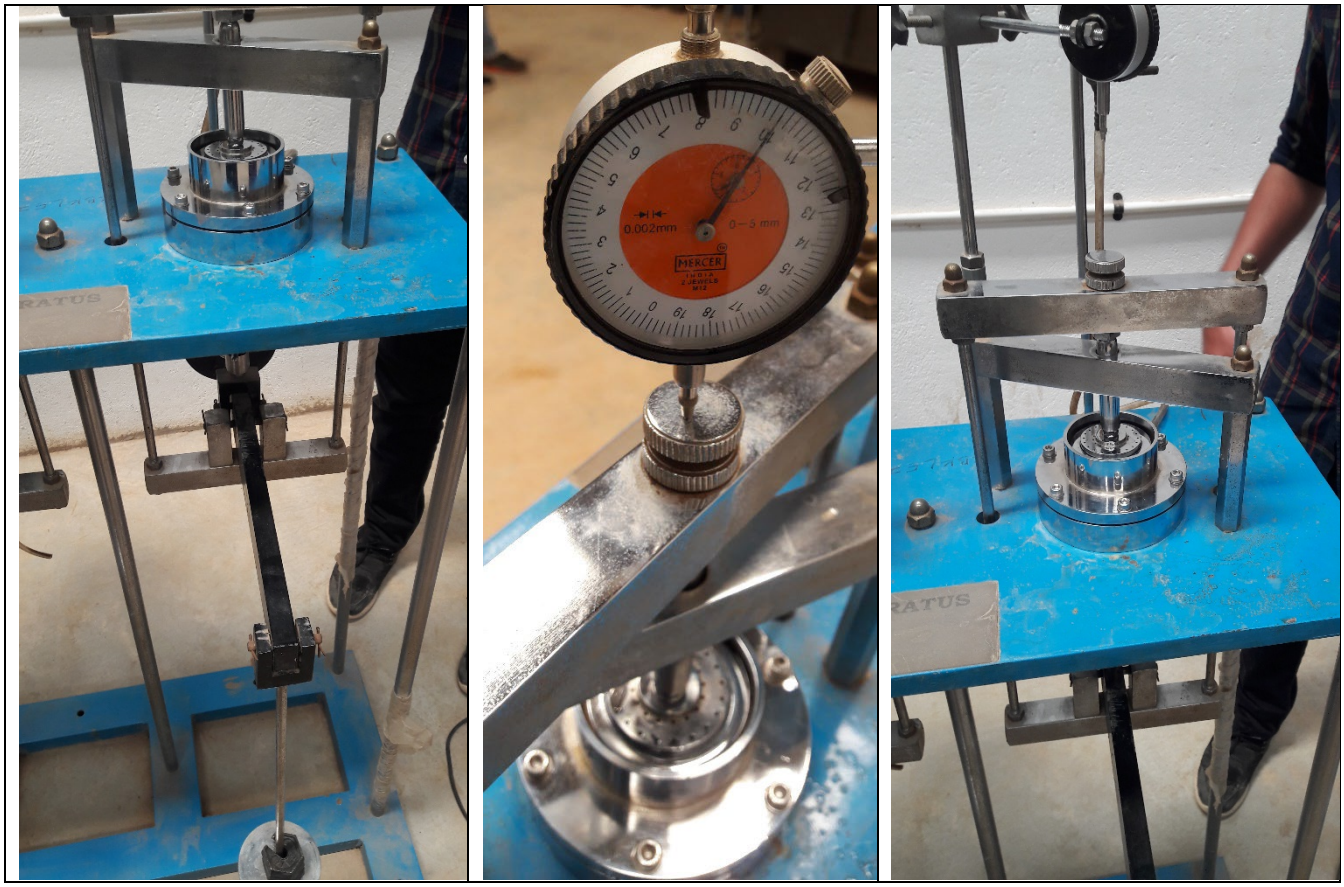


Figure S8. Swell test in progress

Table S1. Freundlich and Langmuir model calculations for sorption of individual heavy metals sorbed on soils.

Co	Langmuir Isotherm					Freundlich Isotherm			
	qe	k	Vm	R^2		(1/n)	log(kf)	kf	R^2
10	0.1835	0.023498	-0.9648	0.160		0.472	-0.804	1.572E-01	0.707
20	0.2287		0.0908						
50	0.5861		0.4399						
100	1.3520		1.1366						
10	0.20673	-0.03725	3.3802	0.844		#NUM!	#NUM!	#NUM!	0.741
20	0.48802		1.0605						
50	1.31702		1.7460						
100	3.49382		3.7353						
10	0.30371	-0.00405	0.6061	0.925		#NUM!	#NUM!	#NUM!	1.056
20	0.69572		0.9386						
50	1.89703		2.1154						
100	5.42358		5.5871						
10	0.19904	-0.0855	-21.1265	0.884		#NUM!	#NUM!	#NUM!	0.688
20	0.44877		1.3988						
50	1.19562		1.8267						
100	3.10961		3.3990						
10	0.15761	0.114084	-0.2262	0.757		#NUM!	#NUM!	#NUM!	0.632
20	0.35519		-0.4632						
50	0.96207		-1.6567						
100	2.45237		3.0121						
10	0.25496	-0.01103	0.7340	0.952		#NUM!	#NUM!	#NUM!	0.874
20	0.56545		0.9183						
50	1.41720		1.7679						
100	3.91620		4.1272						
10	0.31449	-0.0033	0.5981	0.897		#NUM!	#NUM!	#NUM!	0.674
20	0.74302		0.9667						
50	2.03337		2.2365						
100	5.85190		6.0088						
10	0.21540	-0.03225	1.6595	0.898		#NUM!	#NUM!	#NUM!	0.487
20	0.48764		1.0621						
50	1.29565		1.7481						
100	3.41382		3.6631						
10	0.11646	-0.02074	-0.0275	0.793		1.354	-1.812	1.543E-02	0.957
20	0.23987		0.0852						
50	0.62284		0.4523						
100	1.51306		1.1922						
10	0.16704	0.136762	-0.3562	0.821		#NUM!	#NUM!	#NUM!	0.749
20	0.36671		-0.7706						
50	0.97506		-3.0620						

100	2.46658		3.0124						
10	0.36276	-0.00193	0.5929	0.901		#NUM!	#NUM!	#NUM!	0.887
20	0.86320		1.0556						
50	2.37771		2.5559						
100	7.08388		7.2278						
10	0.13012	-0.03607	-0.0622	0.606		1.522	-1.725	1.883E-02	0.899
20	0.27889		0.0411						
50	0.71197		0.4567						
100	1.71052		1.1004						
10	0.13513	-0.02446	-0.0800	0.043		1.302	-1.338	4.590E-02	0.397
20	0.28918		0.0197						
50	0.75061		0.4398						
100	1.87544		0.3208						
10	0.18695	-0.67623	-1.2918	0.869		#NUM!	#NUM!	#NUM!	0.985
20	0.42031		2.5573						
50	1.11576		2.1110						
100	2.87502		3.2143						
10	0.37902	-0.00161	0.5976	0.887		#NUM!	#NUM!	#NUM!	1.261
20	0.91876		1.1016						
50	2.54636		2.7164						
100	7.68735		7.8269						
10	0.12348	-0.03395	-0.0431	0.768		1.539	-1.830	1.478E-02	0.931
20	0.26479		0.0626						
50	0.69190		0.4600						
100	1.65933		1.1564						
10	0.10300	-0.03402	-0.0066	0.941		1.760	-2.217	6.069E-03	0.997
20	0.23461		0.0881						
50	0.69718		0.4595						
100	1.54761		1.1944						
10	0.15016	0.138788	-0.1610	0.616		#NUM!	#NUM!	#NUM!	0.796
20	0.34958		-0.3663						
50	0.88517		0.0892						
100	2.23454		3.2182						
10	0.28094	-0.00553	0.6393	0.925		#NUM!	#NUM!	#NUM!	1.522
20	0.61324		0.9102						
50	1.86382		2.0866						
100	5.69252		5.8517						
10	0.12242	0.00831	-0.0405	0.877		0.886	-1.405	3.938E-02	0.995
20	0.25295		0.0753						
50	0.58133		0.4380						
100	1.11108		0.9820						
10	0.11840	-0.04801	-0.0314	0.335		1.815	-1.957	1.105E-02	0.628

20	0.26563		0.0615						
50	0.72219		0.4538						
100	1.81398		0.8071						
10	0.12948	0.064186	-0.0601	0.630		#NUM!	#NUM!	#NUM!	0.774
20	0.33228		-0.1743						
50	1.00864		13.0672						
100	2.70897		3.1035						
10	0.14347	0.011707	-0.1186	0.570		#NUM!	#NUM!	#NUM!	0.583
20	0.18052		0.0956						
50	1.76449		2.0028						
100	6.67412		6.8216						
10	0.07061	-0.04881	0.0143	0.705		2.577	-3.149	7.095E-04	0.941
20	0.23333		0.0888						
50	0.67317		0.4605						
100	1.63053		1.1749						