

Supporting Information

Table S1. The comparison between smartphone-based CRP-ME detector and vector network analyzer

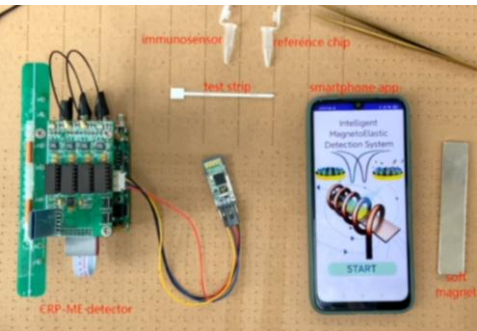
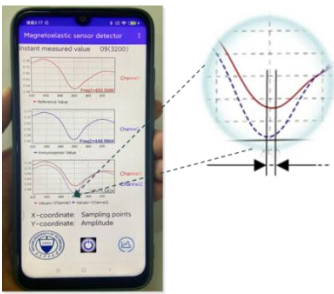

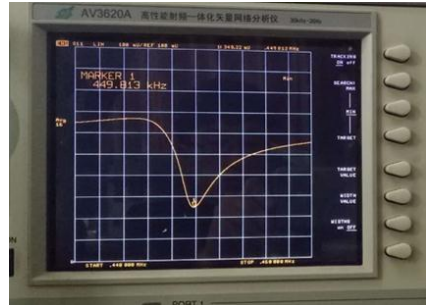
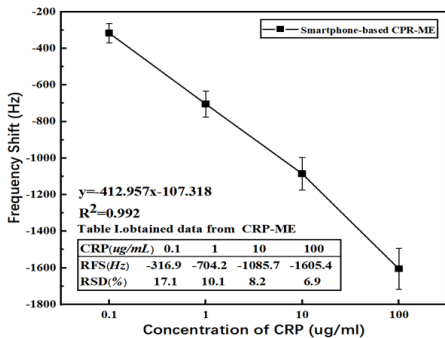
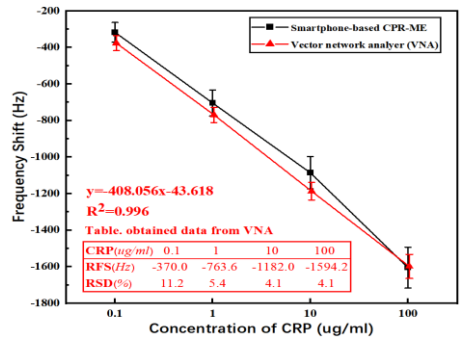
Device	Smartphone-based CRP-ME detector	Vector network analyzer (AV3620A)																														
Test time	1-2min (After reagent reaction 35min on chips)	1-2min (After reagent reaction 35min on chips)																														
Device Cost	<\$900 (including cellphone)	>\$15000																														
Communication	Bluetooth (wireless)	Cable																														
Complexity of operate	Self-operation without professional staff	At least 1 professional staff help																														
Size	100mmx60mmx50mm  	350mmx600mmx200mm  																														
Performance	 <p> $y = -412.957x - 107.318$ $R^2 = 0.992$ Table Obtained data from CRP-ME </p> <table border="1"> <thead> <tr> <th>CRP(ug/mL)</th> <th>0.1</th> <th>1</th> <th>10</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>RFS(Hz)</td> <td>-316.9</td> <td>-704.2</td> <td>-1085.7</td> <td>-1605.4</td> </tr> <tr> <td>RSD(%)</td> <td>17.1</td> <td>10.1</td> <td>8.2</td> <td>6.9</td> </tr> </tbody> </table>	CRP(ug/mL)	0.1	1	10	100	RFS(Hz)	-316.9	-704.2	-1085.7	-1605.4	RSD(%)	17.1	10.1	8.2	6.9	 <p> $y = -408.056x - 43.618$ $R^2 = 0.996$ Table obtained data from VNA </p> <table border="1"> <thead> <tr> <th>CRP(ug/ml)</th> <th>0.1</th> <th>1</th> <th>10</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>RFS(Hz)</td> <td>-370.0</td> <td>-763.6</td> <td>-1182.0</td> <td>-1594.2</td> </tr> <tr> <td>RSD(%)</td> <td>11.2</td> <td>5.4</td> <td>4.1</td> <td>4.1</td> </tr> </tbody> </table>	CRP(ug/ml)	0.1	1	10	100	RFS(Hz)	-370.0	-763.6	-1182.0	-1594.2	RSD(%)	11.2	5.4	4.1	4.1
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RSD(%)	11.2	5.4	4.1	4.1																												

Table S2. ANOVA results of time-dependent frequency responses

		Sum of Squares	df	Mean Square	F	Sig.
RFS5min	Between Groups	1156970.000	3	385656.667	332.739	.000
	Within Groups	27816.857	24	1159.036		
	Total	1184786.857	27			
RFS10min	Between Groups	1581347.000	3	527115.667	385.910	.000
	Within Groups	32781.714	24	1365.905		
	Total	1614128.714	27			
RFS15min	Between Groups	3458448.964	3	1152816.321	941.386	.000
	Within Groups	29390.286	24	1224.595		
	Total	3487839.250	27			
RFS20min	Between Groups	3501851.714	3	1167283.905	692.985	.000
	Within Groups	40426.286	24	1684.429		
	Total	3542278.000	27			
RFS25min	Between Groups	3416888.714	3	1138962.905	406.190	.000
	Within Groups	67296.286	24	2804.012		
	Total	3484185.000	27			
RFS30min	Between Groups	5192990.857	3	1730996.952	600.897	.000
	Within Groups	69136.571	24	2880.690		
	Total	5262127.429	27			
RFS35min	Between Groups	6230557.286	3	2076852.429	778.101	.000
	Within Groups	64059.143	24	2669.131		
	Total	6294616.429	27			

Table S3. Multiple Comparisons of time-dependent frequency responses

LSD							
Dependent Variable	(I) concentration	(J) concentration	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound Upper Bound	
RFS5min	.10	1.00	87.28571*	18.19761	.000	49.7277	124.8437
		10.00	292.71429*	18.19761	.000	255.1563	330.2723
		100.00	526.85714*	18.19761	.000	489.2991	564.4152
	1.00	.10	-87.28571*	18.19761	.000	-124.8437	-49.7277
		10.00	205.42857*	18.19761	.000	167.8705	242.9866
		100.00	439.57143*	18.19761	.000	402.0134	477.1295
	10.00	.10	-292.71429*	18.19761	.000	-330.2723	-255.1563
		1.00	-205.42857*	18.19761	.000	-242.9866	-167.8705
		100.00	234.14286*	18.19761	.000	196.5848	271.7009
	100.00	.10	-526.85714*	18.19761	.000	-564.4152	-489.2991
		1.00	-439.57143*	18.19761	.000	-477.1295	-402.0134
		10.00	-234.14286*	18.19761	.000	-271.7009	-196.5848
RFS10min	.10	1.00	130.42857*	19.75496	.000	89.6563	171.2008
		10.00	355.71429*	19.75496	.000	314.9420	396.4865
		100.00	625.57143*	19.75496	.000	584.7992	666.3437
	1.00	.10	-130.42857*	19.75496	.000	-171.2008	-89.6563
		10.00	225.28571*	19.75496	.000	184.5135	266.0580
		100.00	495.14286*	19.75496	.000	454.3706	535.9151
	10.00	.10	-355.71429*	19.75496	.000	-396.4865	-314.9420
		1.00	-225.28571*	19.75496	.000	-266.0580	-184.5135
		100.00	269.85714*	19.75496	.000	229.0849	310.6294
	100.00	.10	-625.57143*	19.75496	.000	-666.3437	-584.7992
		1.00	-495.14286*	19.75496	.000	-535.9151	-454.3706
		10.00	-269.85714*	19.75496	.000	-310.6294	-229.0849
RFS15min	.10	1.00	145.85714*	18.70520	.000	107.2515	184.4628
		10.00	390.57143*	18.70520	.000	351.9658	429.1771
		100.00	923.71429*	18.70520	.000	885.1087	962.3199
	1.00	.10	-145.85714*	18.70520	.000	-184.4628	-107.2515
		10.00	244.71429*	18.70520	.000	206.1087	283.3199
		100.00	777.85714*	18.70520	.000	739.2515	816.4628
	10.00	.10	-390.57143*	18.70520	.000	-429.1771	-351.9658
		1.00	-244.71429*	18.70520	.000	-283.3199	-206.1087
		100.00	533.14286*	18.70520	.000	494.5372	571.7485
	100.00	.10	-923.71429*	18.70520	.000	-962.3199	-885.1087
		1.00	-777.85714*	18.70520	.000	-816.4628	-739.2515
		10.00	-533.14286*	18.70520	.000	-571.7485	-494.5372
RFS20min	.10	1.00	215.57143*	21.93776	.000	170.2941	260.8487
		10.00	472.00000*	21.93776	.000	426.7227	517.2773

		100.00	949.00000*	21.93776	.000	903.7227	994.2773
	1.00	.10	-215.57143*	21.93776	.000	-260.8487	-170.2941
		10.00	256.42857*	21.93776	.000	211.1513	301.7059
		100.00	733.42857*	21.93776	.000	688.1513	778.7059
	10.00	.10	-472.00000*	21.93776	.000	-517.2773	-426.7227
		1.00	-256.42857*	21.93776	.000	-301.7059	-211.1513
		100.00	477.00000*	21.93776	.000	431.7227	522.2773
	100.00	.10	-949.00000*	21.93776	.000	-994.2773	-903.7227
		1.00	-733.42857*	21.93776	.000	-778.7059	-688.1513
		10.00	-477.00000*	21.93776	.000	-522.2773	-431.7227
RFS25min	.10	1.00	318.42857*	28.30453	.000	260.0109	376.8462
		10.00	532.42857*	28.30453	.000	474.0109	590.8462
		100.00	961.42857*	28.30453	.000	903.0109	1019.8462
	1.00	.10	-318.42857*	28.30453	.000	-376.8462	-260.0109
		10.00	214.00000*	28.30453	.000	155.5823	272.4177
		100.00	643.00000*	28.30453	.000	584.5823	701.4177
	10.00	.10	-532.42857*	28.30453	.000	-590.8462	-474.0109
		1.00	-214.00000*	28.30453	.000	-272.4177	-155.5823
		100.00	429.00000*	28.30453	.000	370.5823	487.4177
	100.00	.10	-961.42857*	28.30453	.000	-1019.8462	-903.0109
		1.00	-643.00000*	28.30453	.000	-701.4177	-584.5823
		10.00	-429.00000*	28.30453	.000	-487.4177	-370.5823
RFS30min	.10	1.00	381.71429*	28.68893	.000	322.5033	440.9253
		10.00	651.14286*	28.68893	.000	591.9318	710.3539
		100.00	1183.14286*	28.68893	.000	1123.9318	1242.3539
	1.00	.10	-381.71429*	28.68893	.000	-440.9253	-322.5033
		10.00	269.42857*	28.68893	.000	210.2175	328.6396
		100.00	801.42857*	28.68893	.000	742.2175	860.6396
	10.00	.10	-651.14286*	28.68893	.000	-710.3539	-591.9318
		1.00	-269.42857*	28.68893	.000	-328.6396	-210.2175
		100.00	532.00000*	28.68893	.000	472.7890	591.2110
	100.00	.10	-1183.14286*	28.68893	.000	-1242.3539	-1123.9318
		1.00	-801.42857*	28.68893	.000	-860.6396	-742.2175
		10.00	-532.00000*	28.68893	.000	-591.2110	-472.7890
RFS35min	.10	1.00	405.85714*	27.61537	.000	348.8618	462.8525
		10.00	739.71429*	27.61537	.000	682.7190	796.7096
		100.00	1287.85714*	27.61537	.000	1230.8618	1344.8525
	1.00	.10	-405.85714*	27.61537	.000	-462.8525	-348.8618
		10.00	333.85714*	27.61537	.000	276.8618	390.8525
		100.00	882.00000*	27.61537	.000	825.0047	938.9953
	10.00	.10	-739.71429*	27.61537	.000	-796.7096	-682.7190
		1.00	-333.85714*	27.61537	.000	-390.8525	-276.8618
		100.00	548.14286*	27.61537	.000	491.1475	605.1382

100.00	.10	-1287.85714*	27.61537	.000	-1344.8525	-1230.8618
	1.00	-882.00000*	27.61537	.000	-938.9953	-825.0047
	10.00	-548.14286*	27.61537	.000	-605.1382	-491.1475

*. The mean difference is significant at the 0.05 level.

Table S4. ANOVA results of the specificity comparison experiment

		Sum of Squares	df	Mean Square	F	Sig.
RFS5min	Between Groups	333672.933	4	83418.233	285.483	.000
	Within Groups	2922.000	10	292.200		
	Total	336594.933	14			
RFS10min	Between Groups	533704.933	4	133426.233	397.102	.000
	Within Groups	3360.000	10	336.000		
	Total	537064.933	14			
RFS15min	Between Groups	656253.733	4	164063.433	279.114	.000
	Within Groups	5878.000	10	587.800		
	Total	662131.733	14			
RFS20min	Between Groups	1035114.933	4	258778.733	503.657	.000
	Within Groups	5138.000	10	513.800		
	Total	1040252.933	14			
RFS25min	Between Groups	1204462.000	4	301115.500	1013.857	.000
	Within Groups	2970.000	10	297.000		
	Total	1207432.000	14			
RFS30min	Between Groups	1817853.733	4	454463.433	1553.190	.000
	Within Groups	2926.000	10	292.600		
	Total	1820779.733	14			
RFS35min	Between Groups	2119509.733	4	529877.433	1037.348	.000
	Within Groups	5108.000	10	510.800		
	Total	2124617.733	14			

Table S5. Multiple Comparisons of the specificity comparison experiment

LSD								
Dependent Variable	(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
RFS5min	1	2	3.667	13.957	.798	-27.43	34.76	
		3	2.667	13.957	.852	-28.43	33.76	
		4	6.333	13.957	.660	-24.76	37.43	
		5	376.000*	13.957	.000	344.90	407.10	
		2	1	-3.667	13.957	.798	-34.76	27.43
	2	3	-1.000	13.957	.944	-32.10	30.10	
		4	2.667	13.957	.852	-28.43	33.76	
		5	372.333*	13.957	.000	341.24	403.43	
		3	1	-2.667	13.957	.852	-33.76	28.43
		2	1.000	13.957	.944	-30.10	32.10	
	3	4	3.667	13.957	.798	-27.43	34.76	
		5	373.333*	13.957	.000	342.24	404.43	
		4	1	-6.333	13.957	.660	-37.43	24.76
		2	-2.667	13.957	.852	-33.76	28.43	
		3	-3.667	13.957	.798	-34.76	27.43	
	4	5	369.667*	13.957	.000	338.57	400.76	
		5	1	-376.000*	13.957	.000	-407.10	-344.90
		2	-372.333*	13.957	.000	-403.43	-341.24	
		3	-373.333*	13.957	.000	-404.43	-342.24	
		4	-369.667*	13.957	.000	-400.76	-338.57	
RFS10min	1	2	3.667	14.967	.811	-29.68	37.01	
		3	-5.667	14.967	.713	-39.01	27.68	
		4	12.667	14.967	.417	-20.68	46.01	
		5	474.000*	14.967	.000	440.65	507.35	
		2	1	-3.667	14.967	.811	-37.01	29.68
	2	3	-9.333	14.967	.547	-42.68	24.01	
		4	9.000	14.967	.561	-24.35	42.35	
		5	470.333*	14.967	.000	436.99	503.68	
		3	1	5.667	14.967	.713	-27.68	39.01
		2	9.333	14.967	.547	-24.01	42.68	
	3	4	18.333	14.967	.249	-15.01	51.68	
		5	479.667*	14.967	.000	446.32	513.01	
		4	1	-12.667	14.967	.417	-46.01	20.68
		2	-9.000	14.967	.561	-42.35	24.35	
		3	-18.333	14.967	.249	-51.68	15.01	
	4	5	461.333*	14.967	.000	427.99	494.68	
		5	1	-474.000*	14.967	.000	-507.35	-440.65
		2	-470.333*	14.967	.000	-503.68	-436.99	

		3	-479.667*	14.967	.000	-513.01	-446.32
		4	-461.333*	14.967	.000	-494.68	-427.99
RFS15min	1	2	1.667	19.796	.935	-42.44	45.77
		3	-3.667	19.796	.857	-47.77	40.44
		4	15.333	19.796	.457	-28.77	59.44
		5	526.000*	19.796	.000	481.89	570.11
	2	1	-1.667	19.796	.935	-45.77	42.44
		3	-5.333	19.796	.793	-49.44	38.77
		4	13.667	19.796	.506	-30.44	57.77
		5	524.333*	19.796	.000	480.23	568.44
	3	1	3.667	19.796	.857	-40.44	47.77
		2	5.333	19.796	.793	-38.77	49.44
		4	19.000	19.796	.360	-25.11	63.11
		5	529.667*	19.796	.000	485.56	573.77
	4	1	-15.333	19.796	.457	-59.44	28.77
		2	-13.667	19.796	.506	-57.77	30.44
		3	-19.000	19.796	.360	-63.11	25.11
		5	510.667*	19.796	.000	466.56	554.77
	5	1	-526.000*	19.796	.000	-570.11	-481.89
		2	-524.333*	19.796	.000	-568.44	-480.23
		3	-529.667*	19.796	.000	-573.77	-485.56
		4	-510.667*	19.796	.000	-554.77	-466.56
RFS20min	1	2	4.667	18.508	.806	-36.57	45.90
		3	5.333	18.508	.779	-35.90	46.57
		4	17.000	18.508	.380	-24.24	58.24
		5	663.333*	18.508	.000	622.10	704.57
	2	1	-4.667	18.508	.806	-45.90	36.57
		3	.667	18.508	.972	-40.57	41.90
		4	12.333	18.508	.520	-28.90	53.57
		5	658.667*	18.508	.000	617.43	699.90
	3	1	-5.333	18.508	.779	-46.57	35.90
		2	-.667	18.508	.972	-41.90	40.57
		4	11.667	18.508	.543	-29.57	52.90
		5	658.000*	18.508	.000	616.76	699.24
	4	1	-17.000	18.508	.380	-58.24	24.24
		2	-12.333	18.508	.520	-53.57	28.90
		3	-11.667	18.508	.543	-52.90	29.57
		5	646.333*	18.508	.000	605.10	687.57
	5	1	-663.333*	18.508	.000	-704.57	-622.10
		2	-658.667*	18.508	.000	-699.90	-617.43
		3	-658.000*	18.508	.000	-699.24	-616.76
		4	-646.333*	18.508	.000	-687.57	-605.10
RFS25min	1	2	10.667	14.071	.466	-20.69	42.02

		3	9.667	14.071	.508	-21.69	41.02
		4	13.000	14.071	.377	-18.35	44.35
		5	716.667*	14.071	.000	685.31	748.02
	2	1	-10.667	14.071	.466	-42.02	20.69
		3	-1.000	14.071	.945	-32.35	30.35
		4	2.333	14.071	.872	-29.02	33.69
		5	706.000*	14.071	.000	674.65	737.35
	3	1	-9.667	14.071	.508	-41.02	21.69
		2	1.000	14.071	.945	-30.35	32.35
		4	3.333	14.071	.818	-28.02	34.69
		5	707.000*	14.071	.000	675.65	738.35
	4	1	-13.000	14.071	.377	-44.35	18.35
		2	-2.333	14.071	.872	-33.69	29.02
		3	-3.333	14.071	.818	-34.69	28.02
		5	703.667*	14.071	.000	672.31	735.02
	5	1	-716.667*	14.071	.000	-748.02	-685.31
		2	-706.000*	14.071	.000	-737.35	-674.65
		3	-707.000*	14.071	.000	-738.35	-675.65
		4	-703.667*	14.071	.000	-735.02	-672.31
RFS30min	1	2	18.333	13.967	.219	-12.79	49.45
		3	12.000	13.967	.410	-19.12	43.12
		4	35.667*	13.967	.029	4.55	66.79
		5	886.333*	13.967	.000	855.21	917.45
	2	1	-18.333	13.967	.219	-49.45	12.79
		3	-6.333	13.967	.660	-37.45	24.79
		4	17.333	13.967	.243	-13.79	48.45
		5	868.000*	13.967	.000	836.88	899.12
	3	1	-12.000	13.967	.410	-43.12	19.12
		2	6.333	13.967	.660	-24.79	37.45
		4	23.667	13.967	.121	-7.45	54.79
		5	874.333*	13.967	.000	843.21	905.45
	4	1	-35.667*	13.967	.029	-66.79	-4.55
		2	-17.333	13.967	.243	-48.45	13.79
		3	-23.667	13.967	.121	-54.79	7.45
		5	850.667*	13.967	.000	819.55	881.79
	5	1	-886.333*	13.967	.000	-917.45	-855.21
		2	-868.000*	13.967	.000	-899.12	-836.88
		3	-874.333*	13.967	.000	-905.45	-843.21
		4	-850.667*	13.967	.000	-881.79	-819.55
RFS35min	1	2	19.66667	18.45355	.312	-21.4504	60.7837
		3	10.33333	18.45355	.588	-30.7837	51.4504
		4	34.00000	18.45355	.095	-7.1171	75.1171
		5	955.33333*	18.45355	.000	914.2163	996.4504

2	1	-19.66667	18.45355	.312	-60.7837	21.4504
	3	-9.33333	18.45355	.624	-50.4504	31.7837
	4	14.33333	18.45355	.455	-26.7837	55.4504
	5	935.66667*	18.45355	.000	894.5496	976.7837
3	1	-10.33333	18.45355	.588	-51.4504	30.7837
	2	9.33333	18.45355	.624	-31.7837	50.4504
	4	23.66667	18.45355	.229	-17.4504	64.7837
	5	945.00000*	18.45355	.000	903.8829	986.1171
4	1	-34.00000	18.45355	.095	-75.1171	7.1171
	2	-14.33333	18.45355	.455	-55.4504	26.7837
	3	-23.66667	18.45355	.229	-64.7837	17.4504
	5	921.33333*	18.45355	.000	880.2163	962.4504
5	1	-955.33333*	18.45355	.000	-996.4504	-914.2163
	2	-935.66667*	18.45355	.000	-976.7837	-894.5496
	3	-945.00000*	18.45355	.000	-986.1171	-903.8829
	4	-921.33333*	18.45355	.000	-962.4504	-880.2163

*. The mean difference is significant at the 0.05 level.

group1—PBS

group2—HSA

group3— β 2-MG

group4—LYZ

group5—CRP

Table S6. ANOVA results of time-dependent frequency responses in simulated blood

		Sum of Squares	df	Mean Square	F	Sig.
RFS5min	Between Groups	247756.286	3	82585.429	143.808	.000
	Within Groups	13782.571	24	574.274		
	Total	261538.857	27			
RFS10min	Between Groups	456858.393	3	152286.131	203.649	.000
	Within Groups	17946.857	24	747.786		
	Total	474805.250	27			
RFS15min	Between Groups	782146.571	3	260715.524	320.210	.000
	Within Groups	19540.857	24	814.202		
	Total	801687.429	27			
RFS20min	Between Groups	1380026.286	3	460008.762	429.351	.000
	Within Groups	25713.714	24	1071.405		
	Total	1405740.000	27			
RFS25min	Between Groups	2090040.143	3	696680.048	532.078	.000
	Within Groups	31424.571	24	1309.357		
	Total	2121464.714	27			
RFS30min	Between Groups	2435025.821	3	811675.274	533.663	.000
	Within Groups	36502.857	24	1520.952		
	Total	2471528.679	27			
RFS35min	Between Groups	2646900.714	3	882300.238	233.189	.000
	Within Groups	90807.143	24	3783.631		
	Total	2737707.857	27			

Table S7. Multiple Comparisons of time-dependent frequency responses in simulated blood

LSD							
Dependent			Mean			95% Confidence Interval	
Variable	(I) concentration	(J) concentration	Difference(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
RFS5min	.10	1.00	52.57143*	12.80930	.000	26.1343	79.0085
		10.00	150.42857*	12.80930	.000	123.9915	176.8657
		100.00	245.57143*	12.80930	.000	219.1343	272.0085
	1.00	.10	-52.57143*	12.80930	.000	-79.0085	-26.1343
		10.00	97.85714*	12.80930	.000	71.4200	124.2942
		100.00	193.00000*	12.80930	.000	166.5629	219.4371
	10.00	.10	-150.42857*	12.80930	.000	-176.8657	-123.9915
		1.00	-97.85714*	12.80930	.000	-124.2942	-71.4200
		100.00	95.14286*	12.80930	.000	68.7058	121.5800
	100.00	.10	-245.57143*	12.80930	.000	-272.0085	-219.1343
		1.00	-193.00000*	12.80930	.000	-219.4371	-166.5629
		10.00	-95.14286*	12.80930	.000	-121.5800	-68.7058
RFS10min	.10	1.00	59.71429*	14.61688	.000	29.5465	89.8820
		10.00	198.00000*	14.61688	.000	167.8323	228.1677
		100.00	329.85714*	14.61688	.000	299.6894	360.0249
	1.00	.10	-59.71429*	14.61688	.000	-89.8820	-29.5465
		10.00	138.28571*	14.61688	.000	108.1180	168.4535
		100.00	270.14286*	14.61688	.000	239.9751	300.3106
	10.00	.10	-198.00000*	14.61688	.000	-228.1677	-167.8323
		1.00	-138.28571*	14.61688	.000	-168.4535	-108.1180
		100.00	131.85714*	14.61688	.000	101.6894	162.0249
	100.00	.10	-329.85714*	14.61688	.000	-360.0249	-299.6894
		1.00	-270.14286*	14.61688	.000	-300.3106	-239.9751
		10.00	-131.85714*	14.61688	.000	-162.0249	-101.6894
RFS15min	.10	1.00	105.57143*	15.25219	.000	74.0925	137.0504
		10.00	274.28571*	15.25219	.000	242.8067	305.7647
		100.00	439.57143*	15.25219	.000	408.0925	471.0504
	1.00	.10	-105.57143*	15.25219	.000	-137.0504	-74.0925
		10.00	168.71429*	15.25219	.000	137.2353	200.1933
		100.00	334.00000*	15.25219	.000	302.5210	365.4790
	10.00	.10	-274.28571*	15.25219	.000	-305.7647	-242.8067
		1.00	-168.71429*	15.25219	.000	-200.1933	-137.2353
		100.00	165.28571*	15.25219	.000	133.8067	196.7647
	100.00	.10	-439.57143*	15.25219	.000	-471.0504	-408.0925
		1.00	-334.00000*	15.25219	.000	-365.4790	-302.5210
		10.00	-165.28571*	15.25219	.000	-196.7647	-133.8067
RFS20min	.10	1.00	132.85714*	17.49616	.000	96.7468	168.9674
		10.00	356.00000*	17.49616	.000	319.8897	392.1103

		100.00	583.14286*	17.49616	.000	547.0326	619.2532
	1.00	.10	-132.85714*	17.49616	.000	-168.9674	-96.7468
		10.00	223.14286*	17.49616	.000	187.0326	259.2532
		100.00	450.28571*	17.49616	.000	414.1754	486.3960
	10.00	.10	-356.00000*	17.49616	.000	-392.1103	-319.8897
		1.00	-223.14286*	17.49616	.000	-259.2532	-187.0326
		100.00	227.14286*	17.49616	.000	191.0326	263.2532
	100.00	.10	-583.14286*	17.49616	.000	-619.2532	-547.0326
		1.00	-450.28571*	17.49616	.000	-486.3960	-414.1754
		10.00	-227.14286*	17.49616	.000	-263.2532	-191.0326
RFS25min	.10	1.00	154.14286*	19.34172	.000	114.2235	194.0622
		10.00	399.85714*	19.34172	.000	359.9378	439.7765
		100.00	722.85714*	19.34172	.000	682.9378	762.7765
	1.00	.10	-154.14286*	19.34172	.000	-194.0622	-114.2235
		10.00	245.71429*	19.34172	.000	205.7949	285.6336
		100.00	568.71429*	19.34172	.000	528.7949	608.6336
	10.00	.10	-399.85714*	19.34172	.000	-439.7765	-359.9378
		1.00	-245.71429*	19.34172	.000	-285.6336	-205.7949
		100.00	323.00000*	19.34172	.000	283.0807	362.9193
	100.00	.10	-722.85714*	19.34172	.000	-762.7765	-682.9378
		1.00	-568.71429*	19.34172	.000	-608.6336	-528.7949
		10.00	-323.00000*	19.34172	.000	-362.9193	-283.0807
RFS30min	.10	1.00	183.57143*	20.84605	.000	140.5473	226.5956
		10.00	426.28571*	20.84605	.000	383.2616	469.3098
		100.00	788.00000*	20.84605	.000	744.9759	831.0241
	1.00	.10	-183.57143*	20.84605	.000	-226.5956	-140.5473
		10.00	242.71429*	20.84605	.000	199.6902	285.7384
		100.00	604.42857*	20.84605	.000	561.4044	647.4527
	10.00	.10	-426.28571*	20.84605	.000	-469.3098	-383.2616
		1.00	-242.71429*	20.84605	.000	-285.7384	-199.6902
		100.00	361.71429*	20.84605	.000	318.6902	404.7384
	100.00	.10	-788.00000*	20.84605	.000	-831.0241	-744.9759
		1.00	-604.42857*	20.84605	.000	-647.4527	-561.4044
		10.00	-361.71429*	20.84605	.000	-404.7384	-318.6902
RFS35min	.10	1.00	204.71429*	32.87913	.000	136.8551	272.5735
		10.00	433.71429*	32.87913	.000	365.8551	501.5735
		100.00	828.14286*	32.87913	.000	760.2837	896.0021
	1.00	.10	-204.71429*	32.87913	.000	-272.5735	-136.8551
		10.00	229.00000*	32.87913	.000	161.1408	296.8592
		100.00	623.42857*	32.87913	.000	555.5694	691.2878
	10.00	.10	-433.71429*	32.87913	.000	-501.5735	-365.8551
		1.00	-229.00000*	32.87913	.000	-296.8592	-161.1408
		100.00	394.42857*	32.87913	.000	326.5694	462.2878

100.00	.10	-828.14286*	32.87913	.000	-896.0021	-760.2837
	1.00	-623.42857*	32.87913	.000	-691.2878	-555.5694
	10.00	-394.42857*	32.87913	.000	-462.2878	-326.5694

*. The mean difference is significant at the 0.05 level.

Table S8. ANOVA results of the specificity comparison experiment in simulated blood

		Sum of Squares	df	Mean Square	F	Sig.
RFS5min	Between Groups	123188.550	3	41062.850	134.931	.000
	Within Groups	4869.200	16	304.325		
	Total	128057.750	19			
RFS10min	Between Groups	223295.750	3	74431.917	279.872	.000
	Within Groups	4255.200	16	265.950		
	Total	227550.950	19			
RFS15min	Between Groups	411909.750	3	137303.250	546.589	.000
	Within Groups	4019.200	16	251.200		
	Total	415928.950	19			
RFS20min	Between Groups	676057.750	3	225352.583	464.357	.000
	Within Groups	7764.800	16	485.300		
	Total	683822.550	19			
RFS25min	Between Groups	840769.800	3	280256.600	551.279	.000
	Within Groups	8134.000	16	508.375		
	Total	848903.800	19			
RFS30min	Between Groups	950690.800	3	316896.933	554.476	.000
	Within Groups	9144.400	16	571.525		
	Total	959835.200	19			
RFS35min	Between Groups	1169422.000	3	389807.333	677.425	.000
	Within Groups	9206.800	16	575.425		
	Total	1178628.800	19			

Table S9. Multiple Comparisons of the specificity comparison experiment in simulated blood

LSD							
Dependent		95% Confidence Interval					
Variable	(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
RFS5min	1	2	-4.600	11.033	.682	-27.99	18.79
		3	-7.800	11.033	.490	-31.19	15.59
		4	177.000*	11.033	.000	153.61	200.39
	2	1	4.600	11.033	.682	-18.79	27.99
		3	-3.200	11.033	.776	-26.59	20.19
		4	181.600*	11.033	.000	158.21	204.99
	3	1	7.800	11.033	.490	-15.59	31.19
		2	3.200	11.033	.776	-20.19	26.59
		4	184.800*	11.033	.000	161.41	208.19
	4	1	-177.000*	11.033	.000	-200.39	-153.61
		2	-181.600*	11.033	.000	-204.99	-158.21
		3	-184.800*	11.033	.000	-208.19	-161.41
RFS10min	1	2	-6.200	10.314	.556	-28.06	15.66
		3	-7.400	10.314	.483	-29.26	14.46
		4	239.400*	10.314	.000	217.54	261.26
	2	1	6.200	10.314	.556	-15.66	28.06
		3	-1.200	10.314	.909	-23.06	20.66
		4	245.600*	10.314	.000	223.74	267.46
	3	1	7.400	10.314	.483	-14.46	29.26
		2	1.200	10.314	.909	-20.66	23.06
		4	246.800*	10.314	.000	224.94	268.66
	4	1	-239.400*	10.314	.000	-261.26	-217.54
		2	-245.600*	10.314	.000	-267.46	-223.74
		3	-246.800*	10.314	.000	-268.66	-224.94
RFS15min	1	2	-1.200	10.024	.906	-22.45	20.05
		3	-4.800	10.024	.639	-26.05	16.45
		4	329.400*	10.024	.000	308.15	350.65
	2	1	1.200	10.024	.906	-20.05	22.45
		3	-3.600	10.024	.724	-24.85	17.65
		4	330.600*	10.024	.000	309.35	351.85
	3	1	4.800	10.024	.639	-16.45	26.05
		2	3.600	10.024	.724	-17.65	24.85
		4	334.200*	10.024	.000	312.95	355.45
	4	1	-329.400*	10.024	.000	-350.65	-308.15
		2	-330.600*	10.024	.000	-351.85	-309.35
		3	-334.200*	10.024	.000	-355.45	-312.95
RFS20min	1	2	-12.800	13.933	.372	-42.34	16.74
		3	-5.400	13.933	.703	-34.94	24.14

		4	418.400*	13.933	.000	388.86	447.94
	2	1	12.800	13.933	.372	-16.74	42.34
		3	7.400	13.933	.603	-22.14	36.94
		4	431.200*	13.933	.000	401.66	460.74
	3	1	5.400	13.933	.703	-24.14	34.94
		2	-7.400	13.933	.603	-36.94	22.14
		4	423.800*	13.933	.000	394.26	453.34
	4	1	-418.400*	13.933	.000	-447.94	-388.86
		2	-431.200*	13.933	.000	-460.74	-401.66
		3	-423.800*	13.933	.000	-453.34	-394.26
RFS25min	1	2	-3.400	14.260	.815	-33.63	26.83
		3	3.800	14.260	.793	-26.43	34.03
		4	473.600*	14.260	.000	443.37	503.83
	2	1	3.400	14.260	.815	-26.83	33.63
		3	7.200	14.260	.621	-23.03	37.43
		4	477.000*	14.260	.000	446.77	507.23
	3	1	-3.800	14.260	.793	-34.03	26.43
		2	-7.200	14.260	.621	-37.43	23.03
		4	469.800*	14.260	.000	439.57	500.03
	4	1	-473.600*	14.260	.000	-503.83	-443.37
		2	-477.000*	14.260	.000	-507.23	-446.77
		3	-469.800*	14.260	.000	-500.03	-439.57
RFS30min	1	2	-5.800	15.120	.706	-37.85	26.25
		3	1.400	15.120	.927	-30.65	33.45
		4	502.000*	15.120	.000	469.95	534.05
	2	1	5.800	15.120	.706	-26.25	37.85
		3	7.200	15.120	.640	-24.85	39.25
		4	507.800*	15.120	.000	475.75	539.85
	3	1	-1.400	15.120	.927	-33.45	30.65
		2	-7.200	15.120	.640	-39.25	24.85
		4	500.600*	15.120	.000	468.55	532.65
	4	1	-502.000*	15.120	.000	-534.05	-469.95
		2	-507.800*	15.120	.000	-539.85	-475.75
		3	-500.600*	15.120	.000	-532.65	-468.55
RFS35min	1	2	-6.40000	15.17135	.679	-38.5618	25.7618
		3	-2.00000	15.17135	.990	-32.3618	31.9618
		4	556.20000*	15.17135	.000	524.0382	588.3618
	2	1	6.40000	15.17135	.679	-25.7618	38.5618
		3	6.20000	15.17135	.688	-25.9618	38.3618
		4	562.60000*	15.17135	.000	530.4382	594.7618
	3	1	.20000	15.17135	.990	-31.9618	32.3618
		2	-6.20000	15.17135	.688	-38.3618	25.9618
		4	556.40000*	15.17135	.000	524.2382	588.5618

4	1	-556.20000*	15.17135	.000	-588.3618	-524.0382
	2	-562.60000*	15.17135	.000	-594.7618	-530.4382
	3	-556.40000*	15.17135	.000	-588.5618	-524.2382

*. The mean difference is significant at the 0.05 level.

Group1—HSA

Group2— β 2-MG

Group3—LYZ

Group4—CRP