

Supplementary Material

Table 1. Spectra collected on each day.

Day	Number of Spectra	
	HB	AB
0	492	201
1	487	184
9	492	-
10	-	200
13	-	193
20	486	201
29	-	
30	484	-
105	-	200
162	500	-
176	-	200

Figure S1. A) Average original human blood spectra; b) Average pre-processed (1st Savitzky-Golay derivative technique with 15 smoothing points and a 2nd degree polynomial) human blood spectra; c) Average original Animal blood spectra; d) Average pre-processed (1st Savitzky-Golay derivative technique with 15 smoothing points and a 2nd degree polynomial) animal blood spectra.

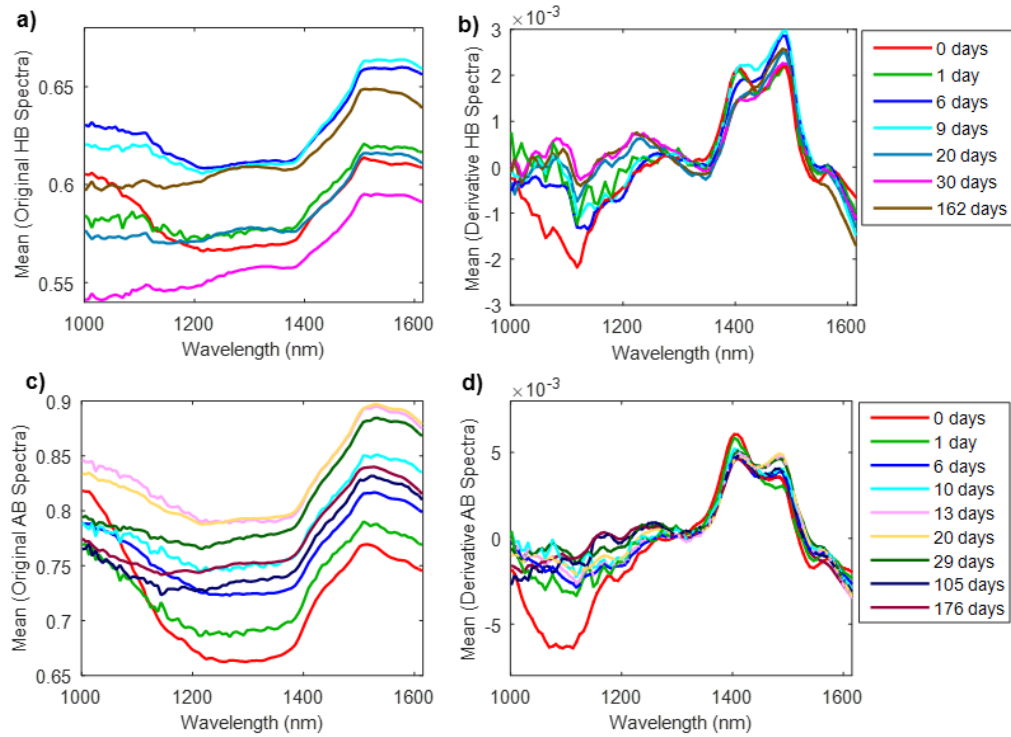


Table S2. Resume of the Hierarchical Models

Hierarchical Model	Training Set Age	Training Set Spectra		1 st Decision Rule	2 nd Decision Rule
		HB	AB		
HM1.a	6 days	365	168	SIMCA_Q	SIMCA_Q
HM1.b	(6 + 0) days	721	338		
HM1.c	(6 + 1) days	716	323		
HM1.d	(6 + 0 + 1) days	1072	493		
HM2.a	6 days	365	168	SIMCA_Q	SIMCA
HM2.b	(6 + 0) days	721	338		
HM2.c	(6 + 1) days	716	323		
HM2.d	(6 + 0 + 1) days	1072	493		
HM3.a	6 days	365	168	SIMCA_Q	PLS-DA
HM3.b	(6 + 0) days	721	338		
HM3.c	(6 + 1) days	716	323		
HM3.d	(6 + 0 + 1) days	1072	493		

The first number of the models refers to the technique used as second rule (HM1 – SIMCA_Q, HM2 – SIMCA and HM3 – PLS-DA). The letter refers to the training set age used (HM*.a – samples with 6 days; HM*.b - 6 days and fresh samples (6 + 0); HM*.c – six and one days samples (6 + 1) days); HM*.d – six, zero and one days samples (6 + 0 + 1) days.

Table S3. Distribution of spectra used for external validation.

External Validation				
	HM built with 6 days	HM built with (6 + 0) days	HM built with (6 + 1) days	HM built with (6 + 0 + 1) days
Days	N° of HB Spectra			
0	492	136	492	136
1	487	487	136	136
9	492	492	492	492
20	486	486	486	486
30	484	484	484	484
162	500	500	500	500
Days	N° of AB Spectra			
0	201	31	201	31
1	184	184	32	32
10	200	200	200	200
13	193	193	193	193
20	201	201	201	201
29	201	201	201	201
105	200	200	200	200
176	200	200	200	200

Figure S2. Human Blood PCA model; a. PC1xPC2xPC3 score plot (coloured according to aging time classes); b. PC1xPC2xPC3 loadings plot

