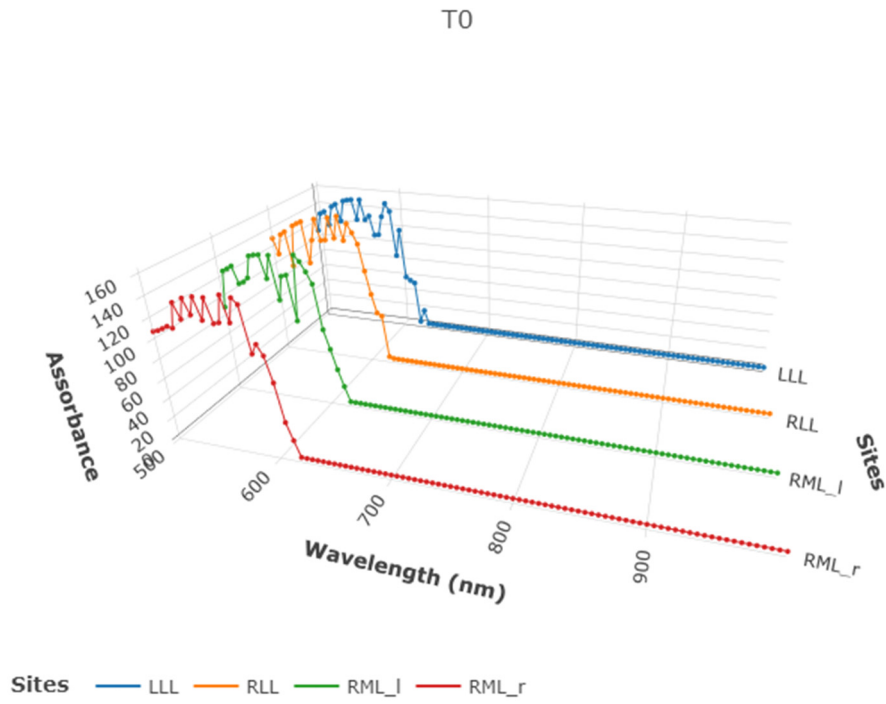


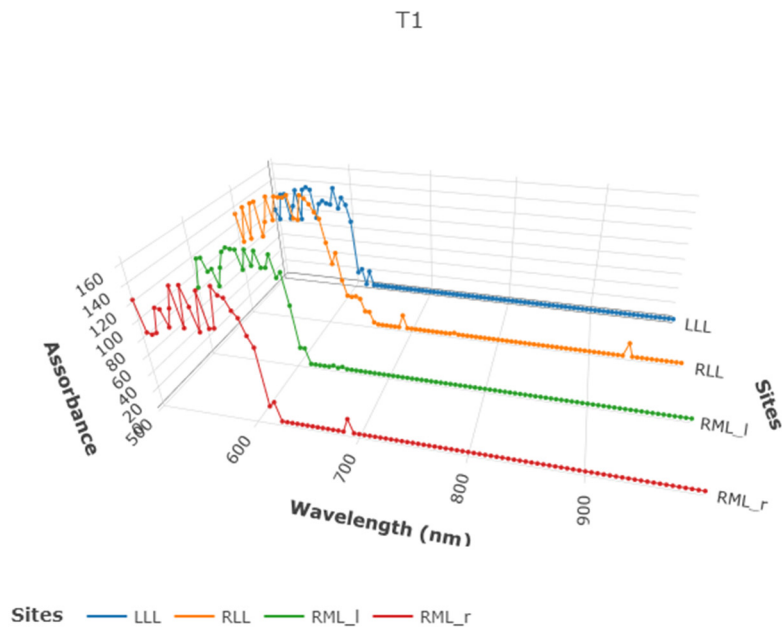
SUPPLEMENTARY MATERIALS

Supplementary Figure S1. 3-dimensional plot of the absorbance variation among the spectra between liver lobes. A) t0, B) t1, C) t2, D) t3, E) t4.

A.

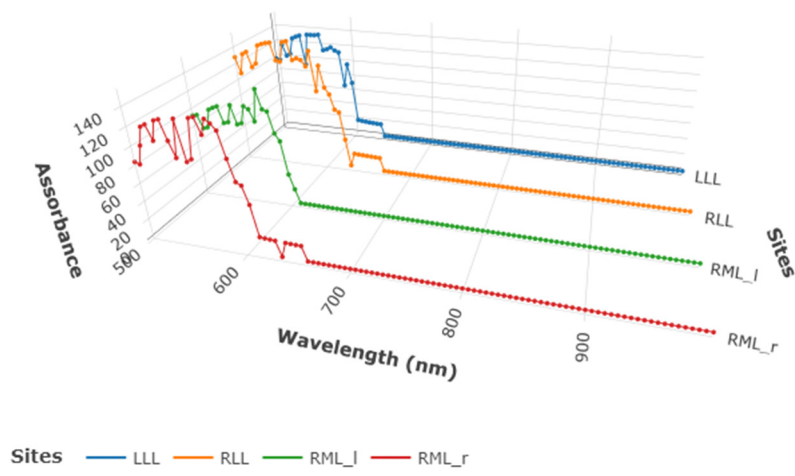


B.



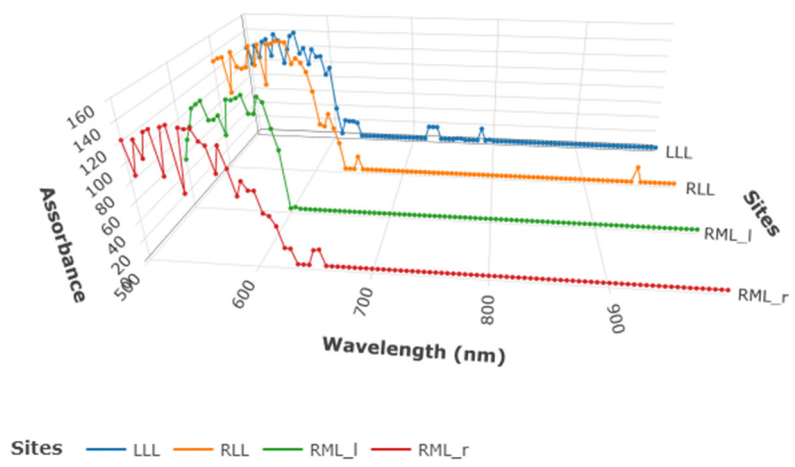
C.

T2



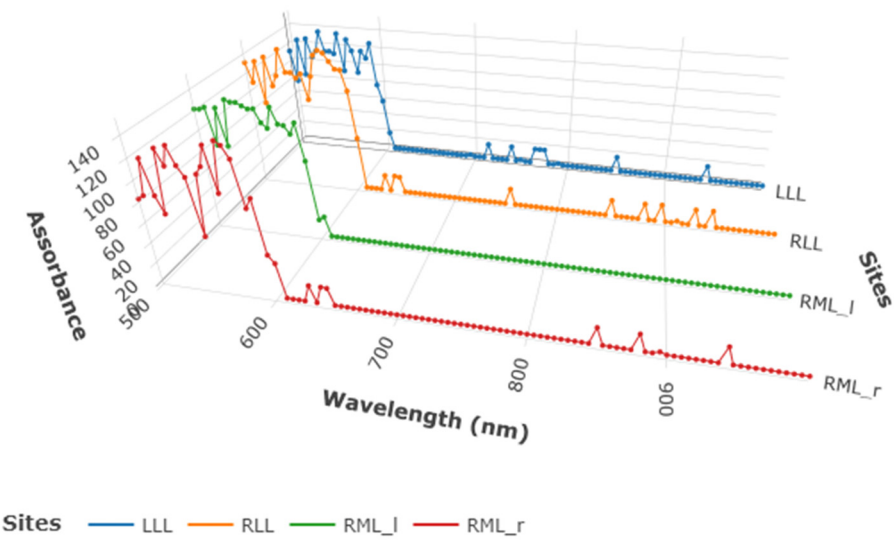
D.

T3



E.

T4



Supplementary Table S1. Random effects report of the mixed-effects linear regression to estimate the variations of the hyperspectral indexes among different liver lobes. In this table, the reference level is the left lateral lobe.

T	index		Parameter	Coefficient
0	StO2%	SD	(Intercept: ID)	16.87
		SD	(Residual)	7.17
	NIR	SD	(Intercept: ID)	7.05
		SD	(Residual)	10.4
	THI	SD	(Intercept: ID)	9.31
		SD	(Residual)	7.99
	DeHb	SD	(Intercept: ID)	14.15
		SD	(Residual)	7.76
	StO2%	SD	(Intercept: ID)	4.02
		SD	(Residual)	7.11
1	NIR	SD	(Intercept: ID)	1.33
		SD	(Residual)	14.02
	THI	SD	(Intercept: ID)	11.49
		SD	(Residual)	4.71
	DeHb	SD	(Intercept: ID)	8.6
		SD	(Residual)	4.95
	StO2%	SD	(Intercept: ID)	14.01
		SD	(Residual)	9.91
	NIR	SD	(Intercept: ID)	20.87
		SD	(Residual)	12.97
2	THI	SD	(Intercept: ID)	9.21
		SD	(Residual)	7.66
	DeHb	SD	(Intercept: ID)	11.58
		SD	(Residual)	4.46
	StO2%	SD	(Intercept: ID)	11.91
		SD	(Residual)	8.45
	NIR	SD	(Intercept: ID)	7.83
		SD	(Residual)	14.22
	THI	SD	(Intercept: ID)	10.07
		SD	(Residual)	6.11
3	DeHb	SD	(Intercept: ID)	12.16
		SD	(Residual)	8.21
	StO2%	SD	(Intercept: ID)	13.98
		SD	(Residual)	7.55
	NIR	SD	(Intercept: ID)	7.83
		SD	(Residual)	4.16
	THI	SD	(Intercept: ID)	9.45
		SD	(Residual)	6.32
	DeHb	SD	(Intercept: ID)	12.43
		SD	(Residual)	6.25

Supplementary Table S2. Random effects report of the mixed-effects linear regression to estimate the variations of the hyperspectral indexes among different liver lobes. In this table, the reference level is the right lateral lobe, after the exclusion of the left lateral lobe.

T	index	Parameter	Coefficient
0	StO2%	SD (Intercept: ID)	17.87
		SD (Residual)	7.17
	NIR	SD (Intercept: ID)	7.59
		SD (Residual)	12.03
	THI	SD (Intercept: ID)	9.44
		SD (Residual)	9.54
	DeHb	SD (Intercept: ID)	14.87
		SD (Residual)	8.6
	StO2%	SD (Intercept: ID)	3.47
		SD (Residual)	4.29
	NIR	SD (Intercept: ID)	8.25
		SD (Residual)	13.13
1	THI	SD (Intercept: ID)	11.57
		SD (Residual)	3.74
	DeHb	SD (Intercept: ID)	7.25
		SD (Residual)	4.86
	StO2%	SD (Intercept: ID)	10.79
		SD (Residual)	8.91
	NIR	SD (Intercept: ID)	20.31
		SD (Residual)	14.55
	THI	SD (Intercept: ID)	8.58
		SD (Residual)	7.8
	DeHb	SD (Intercept: ID)	10.4
		SD (Residual)	4.23
2	StO2%	SD (Intercept: ID)	10.28
		SD (Residual)	9.34
	NIR	SD (Intercept: ID)	11.09
		SD (Residual)	13.99
	THI	SD (Intercept: ID)	9.23
		SD (Residual)	6.75
	DeHb	SD (Intercept: ID)	10.94
		SD (Residual)	7.21
	StO2%	SD (Intercept: ID)	11.83
		SD (Residual)	7.76
	NIR	SD (Intercept: ID)	7.59
		SD (Residual)	4.46
4	THI	SD (Intercept: ID)	8.51
		SD (Residual)	6.87
	DeHb	SD (Intercept: ID)	11
		SD (Residual)	6.12

Supplementary Table S3. Mixed-effects linear regression to estimate the variations of the hyperspectral indexes among different liver lobes. In this table, the reference level is the right medial lobe – left side, after the exclusion of the left lateral lobe. Above, the random effects were reported.

T	INDEX	SITE	Coefficient	SE	95% CI	t	df	p
0	StO2%	(Intercept)	42.83	7.86	[25.85, 59.81]	5.45	13	< 0.001
		RLL	-4	4.14	[-12.95, 4.95]	-0.97	13	0.352
		RMLr	-3	4.14	[-11.95, 5.95]	-0.72	13	0.482
	NIR	(Intercept)	59.83	5.81	[47.29, 72.38]	10.3	13	< 0.001
		RLL	0.33	6.95	[-14.68, 15.34]	0.05	13	0.962
		RMLr	0.17	6.95	[-14.84, 15.18]	0.02	13	0.981
	THI	(Intercept)	67.5	5.48	[55.66, 79.34]	12.32	13	< 0.001
		RLL	3.67	5.51	[-8.23, 15.56]	0.67	13	0.517
		RMLr	-0.83	5.51	[-12.73, 11.06]	-0.15	13	0.882
	DeHb	(Intercept)	40.02	7.01	[24.87, 55.18]	5.71	13	< 0.001
		RLL	3.92	4.97	[-6.81, 14.65]	0.79	13	0.444
		RMLr	2.38	4.97	[-8.35, 13.11]	0.48	13	0.64
1	StO2%	(Intercept)	50.4	2.47	[44.90, 55.90]	20.42	10	< 0.001
		RLL	-31	2.71	[-37.05, -24.95]	-11.42	10	< 0.001
		RMLr	-24	2.71	[-30.05, -17.95]	-8.84	10	< 0.001
	NIR	(Intercept)	51	6.94	[35.55, 66.45]	7.35	10	< 0.001
		RLL	-22.4	8.3	[-40.90, -3.90]	-2.7	10	0.022
		RMLr	-12.2	8.3	[-30.70, 6.30]	-1.47	10	0.173
	THI	(Intercept)	56.8	5.44	[44.69, 68.91]	10.45	10	< 0.001
		RLL	11.8	2.36	[6.53, 17.07]	4.99	10	< 0.001
		RMLr	2.4	2.36	[-2.87, 7.67]	1.02	10	0.334
	DeHb	(Intercept)	28.1	3.9	[19.40, 36.79]	7.2	10	< 0.001
		RLL	27.09	3.07	[20.24, 33.94]	8.81	10	< 0.001
		RMLr	15.44	3.07	[8.59, 22.29]	5.02	10	< 0.001
2	StO2%	(Intercept)	47.67	5.71	[35.32, 60.01]	8.34	13	< 0.001
		RLL	-27.33	5.14	[-38.44, -16.22]	-5.32	13	< 0.001
		RMLr	-18.5	5.14	[-29.61, -7.39]	-3.6	13	0.003
	NIR	(Intercept)	42.67	10.2	[20.63, 64.71]	4.18	13	0.001
		RLL	-10.5	8.4	[-28.65, 7.65]	-1.25	13	0.233
		RMLr	-1.67	8.4	[-19.82, 16.48]	-0.2	13	0.846
	THI	(Intercept)	50	4.73	[39.77, 60.23]	10.56	13	< 0.001
		RLL	13.5	4.5	[3.78, 23.22]	3	13	0.01
		RMLr	2.83	4.5	[-6.89, 12.56]	0.63	13	0.54
	DeHb	(Intercept)	26.43	4.58	[16.53, 36.33]	5.77	13	< 0.001
		RLL	24.44	2.44	[19.16, 29.71]	10.01	13	< 0.001
		RMLr	10.64	2.44	[5.37, 15.92]	4.36	13	< 0.001
3	StO2%	(Intercept)	59	6.21	[45.16, 72.84]	9.5	10	< 0.001
		RLL	-34.4	5.91	[-47.56, -21.24]	-5.82	10	< 0.001
		RMLr	-25.4	5.91	[-38.56, -12.24]	-4.3	10	0.002
	NIR	(Intercept)	51.8	7.98	[34.01, 69.59]	6.49	10	< 0.001
		RLL	-14.4	8.85	[-34.11, 5.31]	-1.63	10	0.135
		RMLr	-2.8	8.85	[-22.51, 16.91]	-0.32	10	0.758
	THI	(Intercept)	50.4	5.11	[39.01, 61.79]	9.86	10	< 0.001

4		RLL	13.2	4.27	[3.69, 22.71]	3.09	10	0.011
		RMLr	6.4	4.27	[-3.11, 15.91]	1.5	10	0.165
		(Intercept)	21.01	5.86	[7.95, 34.07]	3.58	10	0.005
	DeHb	RLL	27.72	4.56	[17.55, 37.88]	6.08	10	< 0.001
		RMLr	17.1	4.56	[6.94, 27.26]	3.75	10	0.004
		(Intercept)	55.5	7.07	[38.77, 72.23]	7.84	7	< 0.001
	StO2%	RLL	-7.5	5.49	[-20.48, 5.48]	-1.37	7	0.214
		RMLr	-2	5.49	[-14.98, 10.98]	-0.36	7	0.726
		(Intercept)	61	4.4	[50.60, 71.40]	13.86	7	< 0.001
	NIR	RLL	-2	3.15	[-9.46, 5.46]	-0.63	7	0.546
		RMLr	3.5	3.15	[-3.96, 10.96]	1.11	7	0.304
		(Intercept)	52.75	5.47	[39.82, 65.68]	9.65	7	< 0.001
	THI	RLL	10	4.86	[-1.49, 21.49]	2.06	7	0.079
		RMLr	9	4.86	[-2.49, 20.49]	1.85	7	0.106
		(Intercept)	24.37	6.29	[9.49, 39.25]	3.87	7	0.006
	DeHb	RLL	9.3	4.33	[-0.93, 19.53]	2.15	7	0.069
		RMLr	4.97	4.33	[-5.26, 15.20]	1.15	7	0.289

RANDOM EFFECTS:

T	index	Parameter	Coefficient
0	StO2%	SD (Intercept: ID)	17.87
		SD (Residual)	7.17
	NIR	SD (Intercept: ID)	7.59
		SD (Residual)	12.03
	THI	SD (Intercept: ID)	9.44
		SD (Residual)	9.54
1	DeHb	SD (Intercept: ID)	14.87
		SD (Residual)	8.6
	StO2%	SD (Intercept: ID)	3.47
		SD (Residual)	4.29
	NIR	SD (Intercept: ID)	8.25
		SD (Residual)	13.13
	THI	SD (Intercept: ID)	11.57
		SD (Residual)	3.74
	DeHb	SD (Intercept: ID)	7.25
		SD (Residual)	4.86
	StO2%	SD (Intercept: ID)	10.79
		SD (Residual)	8.91
2	NIR	SD (Intercept: ID)	20.31
		SD (Residual)	14.55
	THI	SD (Intercept: ID)	8.58
		SD (Residual)	7.8
	DeHb	SD (Intercept: ID)	10.4
		SD (Residual)	4.23
3	StO2%	SD (Intercept: ID)	10.28
		SD (Residual)	9.34
	NIR	SD (Intercept: ID)	11.09
		SD (Residual)	13.99

4

THI	SD	(Intercept: ID)	9.23
	SD	(Residual)	6.75
DeHb	SD	(Intercept: ID)	10.94
	SD	(Residual)	7.21
StO2%	SD	(Intercept: ID)	11.83
	SD	(Residual)	7.76
NIR	SD	(Intercept: ID)	7.59
	SD	(Residual)	4.46
THI	SD	(Intercept: ID)	8.51
	SD	(Residual)	6.87
DeHb	SD	(Intercept: ID)	11
	SD	(Residual)	6.12