

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood.

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	0	2.789215	0	0
Iroko	5	1.788527	0	0
Iroko	10	0.962905	0	0
Iroko	15	1.014431	0	0
Iroko	20	0.14994	0	0
Iroko	25	0.840711	0	0
Iroko	30	197.4757	142.8676	21.71537
Iroko	35	278.3095	162.0817	59.65095
Iroko	40	225.6597	157.8577	76.96177
Iroko	45	181.8872	154.3606	85.06345
Iroko	50	159.9894	151.3947	90.5165
Iroko	55	151.0209	148.3027	94.19679
Iroko	60	144.5529	145.175	96.83278
Iroko	65	137.6714	142.4271	99.06454
Iroko	70	133.6347	138.369	99.59931
Iroko	75	128.0877	134.3204	99.65827
Iroko	80	127.3203	130.2977	99.30876
Iroko	85	119.7174	126.4782	98.74872
Iroko	90	118.3121	122.78	97.94866
Iroko	95	114.6794	118.2244	96.07904
Iroko	100	111.699	115.3365	95.4053
Iroko	105	111.4973	112.2015	94.26837
Iroko	110	109.4146	109.2753	93.10197
Iroko	115	107.2242	106.4867	91.86819
Iroko	120	102.7003	103.7178	90.48282
Iroko	125	100.5006	101.7079	89.64486
Iroko	130	100.3219	100.5508	89.46379
Iroko	135	97.71558	99.27853	89.06797
Iroko	140	97.02537	97.83964	88.42371
Iroko	145	97.73133	96.57368	87.85524
Iroko	150	96.76854	95.20312	87.11834
Iroko	155	95.87886	94.36736	86.81095
Iroko	160	91.72921	93.15064	86.09932
Iroko	165	92.03317	92.33732	85.71192
Iroko	170	91.8865	91.47579	85.2403
Iroko	175	89.31425	90.10242	84.2676
Iroko	180	88.97077	89.0528	83.56438
Iroko	185	87.37675	87.7468	82.60852
Iroko	190	89.19491	86.93929	82.08637
Iroko	195	86.22019	85.3985	80.89891
Iroko	200	85.78868	84.03174	79.86726

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	205	82.78307	83.65847	79.69882
Iroko	210	83.12793	83.35062	79.57671
Iroko	215	82.74298	82.76869	79.21036
Iroko	220	83.78145	82.76925	79.33669
Iroko	225	82.39863	82.32926	79.07983
Iroko	230	83.45113	81.60893	78.58294
Iroko	235	84.15894	80.62034	77.86289
Iroko	240	82.9928	80.36834	77.75762
Iroko	245	84.06374	79.7537	77.34916
Iroko	250	80.55648	79.19107	76.98282
Iroko	255	80.36286	79.18357	77.07125
Iroko	260	81.49904	79.23595	77.206
Iroko	265	80.90053	78.61487	76.78491
Iroko	270	80.07691	78.32976	76.63753
Iroko	275	80.81873	77.90462	76.37225
Iroko	280	79.49751	77.20926	75.87958
Iroko	285	79.59275	76.90668	75.70693
Iroko	290	79.97607	77.05201	75.90484
Iroko	295	80.45751	77.42617	76.29224
Iroko	300	80.12712	77.42837	76.36804
Iroko	305	80.27109	77.4427	76.45225
Iroko	310	78.67045	77.32897	76.42699
Iroko	315	79.28945	77.52213	76.65858
Iroko	320	79.75756	77.8212	76.97861
Iroko	325	79.54162	77.82696	77.05019
Iroko	330	79.94519	77.58245	76.90703
Iroko	335	79.2284	77.68154	77.05441
Iroko	340	78.92797	77.43992	76.90703
Iroko	345	80.22336	77.29591	76.83965
Iroko	350	78.69017	77.33808	76.93229
Iroko	355	78.64909	77.34855	76.99545
Iroko	360	78.94922	77.1864	76.90281
Iroko	365	78.57493	77.11342	76.88597
Iroko	370	77.43939	77.2106	77.02072
Iroko	375	77.51871	77.45704	77.29021
Iroko	380	77.37686	77.38512	77.26916
Iroko	385	80.36944	77.6138	77.52181
Iroko	390	78.24105	77.73275	77.6734
Iroko	395	77.4875	77.51719	77.51339
Iroko	400	78.71429	77.64333	77.66919

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	405	79.79141	78.01693	78.05659
Iroko	410	79.93473	78.17471	78.24187
Iroko	415	81.46775	78.35523	78.4482
Iroko	420	81.4144	78.7069	78.81454
Iroko	425	79.42672	78.90097	79.03351
Iroko	430	80.91033	79.50364	79.63145
Iroko	435	82.92045	79.51982	79.68619
Iroko	440	83.83906	79.71375	79.90515
Iroko	445	84.42069	80.07586	80.27992
Iroko	450	85.05003	80.96092	81.13051
Iroko	455	85.20813	81.48633	81.64845
Iroko	460	85.68934	81.94796	82.10743
Iroko	465	86.59322	82.52085	82.66326
Iroko	470	88.88839	82.94261	83.08435
Iroko	475	89.31299	83.71887	83.81282
Iroko	480	89.14919	84.22634	84.30549
Iroko	485	89.21371	84.61188	84.69289
Iroko	490	92.09537	85.63491	85.62349
Iroko	495	93.84902	86.47943	86.39829
Iroko	500	93.35605	87.47043	87.2952
Iroko	505	95.70536	88.65993	88.36055
Iroko	510	96.96561	89.2467	88.9248
Iroko	515	95.48165	89.74258	89.41747
Iroko	520	96.63084	90.80766	90.40702
Iroko	525	99.10143	91.88843	91.43868
Iroko	530	101.0147	92.77532	92.33559
Iroko	535	100.9444	93.38663	93.01354
Iroko	540	103.7526	93.99756	93.72938
Iroko	545	100.3729	94.90394	94.82421
Iroko	550	105.2885	95.7717	96.02009
Iroko	555	107.0468	96.18272	96.76541
Iroko	560	107.3434	96.88459	98.07077
Iroko	565	110.7909	97.70788	99.80986
Iroko	570	111.0234	98.33032	101.2415
Iroko	575	114.1361	99.01152	102.6395
Iroko	580	114.411	99.81859	104.0291
Iroko	585	117.5478	100.7464	105.3892
Iroko	590	116.248	101.9315	106.9009
Iroko	595	120.0291	103.1093	108.2737
Iroko	600	123.1551	104.9671	110.257

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	605	125.1464	106.5524	111.8655
Iroko	610	127.0323	108.606	113.8531
Iroko	615	128.3051	110.7908	115.8869
Iroko	620	127.7359	112.8121	117.7144
Iroko	625	131.9881	114.8934	119.5461
Iroko	630	133.5731	117.7408	121.9632
Iroko	635	137.7962	119.3763	123.3443
Iroko	640	138.4171	121.5477	125.1297
Iroko	645	142.6928	123.6866	126.8604
Iroko	650	146.8579	126.2887	128.9195
Iroko	655	148.724	129.0199	131.046
Iroko	660	157.2752	132.9623	134.0441
Iroko	665	158.487	136.505	136.718
Iroko	670	160.5248	140.0917	139.4129
Iroko	675	162.7029	143.4298	141.9268
Iroko	680	162.7955	145.6096	143.5985
Iroko	685	168.6787	148.4903	145.7966
Iroko	690	173.0794	151.6727	148.2389
Iroko	695	175.5092	155.2647	151.0223
Iroko	700	177.9071	158.4143	153.5151
Iroko	705	179.1554	162.2279	156.5848
Iroko	710	186.0567	165.3801	159.2166
Iroko	715	188.1102	168.8142	162.1894
Iroko	720	197.0682	172.1186	165.2255
Iroko	725	197.0956	175.791	168.9184
Iroko	730	204.2967	178.6002	172.2786
Iroko	735	207.5448	180.6117	175.4494
Iroko	740	211.0429	181.8519	178.6581
Iroko	745	213.9319	182.1167	181.4878
Iroko	750	211.3906	181.6973	183.3869
Iroko	755	209.9921	180.9597	184.9744
Iroko	760	214.984	179.9268	186.6082
Iroko	765	219.6931	178.6242	188.2588
Iroko	770	226.2753	176.7671	190.6338
Iroko	775	228.456	174.9667	192.6592
Iroko	780	230.3512	173.1786	195.1394
Iroko	785	230.1252	171.8271	196.7521
Iroko	790	237.7279	170.6547	198.1375
Iroko	795	234.2473	169.9113	199.885
Iroko	800	230.7273	168.3996	200.0155

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	805	218.7219	166.4348	198.6512
Iroko	810	205.9678	165.7337	196.0826
Iroko	815	194.9699	168.3749	191.8338
Iroko	820	178.7208	173.5739	185.8671
Iroko	825	158.7674	175.9669	178.1696
Iroko	830	138.088	172.3211	169.7437
Iroko	835	125.2673	164.313	161.0441
Iroko	840	115.2019	154.7264	152.9929
Iroko	845	109.8498	145.3926	145.9692
Iroko	850	105.9287	137.5657	140.2635
Iroko	855	104.1366	129.5735	134.2252
Iroko	860	98.28658	123.5066	129.1974
Iroko	865	95.04936	118.4236	124.4812
Iroko	870	87.42478	113.7887	119.9377
Iroko	875	84.8966	108.8357	115.4658
Iroko	880	82.904	104.1526	111.8234
Iroko	885	79.60448	99.36448	108.3916
Iroko	890	77.34141	94.7348	104.9976
Iroko	895	75.59308	90.59496	101.6416
Iroko	900	75.35051	87.42081	98.74872
Iroko	905	73.13724	84.65852	95.91903
Iroko	910	70.6302	82.61579	93.56095
Iroko	915	70.37345	80.7974	91.07234
Iroko	920	70.32116	79.34642	88.43634
Iroko	925	67.95565	78.47809	86.13722
Iroko	930	65.16971	77.89295	83.95178
Iroko	935	64.55502	77.38262	81.99795
Iroko	940	63.76041	76.86629	80.5073
Iroko	945	62.79434	76.17777	78.97455
Iroko	950	61.37223	75.28058	77.43759
Iroko	955	60.21608	74.23769	76.0059
Iroko	960	61.39151	72.68308	74.17418
Iroko	965	58.28261	71.12864	72.59511
Iroko	970	59.01886	69.34742	70.92761
Iroko	975	57.11932	68.03802	69.80753
Iroko	980	56.22929	66.63528	68.6327
Iroko	985	55.56634	65.58908	67.80737
Iroko	990	55.46935	64.62905	67.06626
Iroko	995	55.28903	63.20201	65.89985
Iroko	1000	53.66585	62.33195	65.23875

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	1005	53.42741	60.96576	64.11866
Iroko	1010	54.07712	59.82306	63.19228
Iroko	1015	52.60507	58.69406	62.26589
Iroko	1020	50.93635	57.62594	61.38161
Iroko	1025	51.16032	56.54287	60.46785
Iroko	1030	52.02562	55.79214	59.85307
Iroko	1035	51.99873	54.94391	59.13301
Iroko	1040	52.37489	54.37145	58.66561
Iroko	1045	52.55135	53.92578	58.3119
Iroko	1050	50.84625	53.11442	57.59184
Iroko	1055	50.8581	52.33387	56.88863
Iroko	1060	50.37976	51.44417	56.0633
Iroko	1065	49.16669	50.43567	55.10323
Iroko	1070	48.40544	49.73727	54.44212
Iroko	1075	49.36521	49.20576	53.94103
Iroko	1080	49.2228	48.67418	53.43152
Iroko	1085	48.5807	48.13012	52.90095
Iroko	1090	48.89941	47.48065	52.25248
Iroko	1095	48.44299	47.22947	52.01246
Iroko	1100	48.47961	46.7665	51.54506
Iroko	1105	48.49376	46.24581	51.01028
Iroko	1110	48.08041	45.6204	50.35759
Iroko	1115	47.61571	45.36531	50.09231
Iroko	1120	47.49313	45.0945	49.80597
Iroko	1125	46.45895	44.58791	49.26277
Iroko	1130	46.55017	43.9966	48.62272
Iroko	1135	45.5189	43.32142	47.88582
Iroko	1140	46.25103	43.14161	47.67949
Iroko	1145	45.43181	42.674	47.15735
Iroko	1150	44.39036	42.46216	46.90891
Iroko	1155	44.37773	42.28058	46.68994
Iroko	1160	45.26192	42.06733	46.43308
Iroko	1165	44.37437	41.81088	46.12569
Iroko	1170	44.08011	41.49981	45.75513
Iroko	1175	44.49959	41.21895	45.41405
Iroko	1180	43.13338	41.122	45.27088
Iroko	1185	43.18354	41.03954	45.14035
Iroko	1190	43.36952	40.57928	44.59294
Iroko	1195	42.54936	40.31822	44.26028
Iroko	1200	43.4456	39.75015	43.58654

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	1205	43.70117	39.23226	42.96334
Iroko	1210	44.20206	39.05293	42.71069
Iroko	1215	44.28375	39.17727	42.79069
Iroko	1220	43.28265	38.74425	42.2517
Iroko	1225	41.91691	38.26565	41.65797
Iroko	1230	41.75101	38.12744	41.43901
Iroko	1235	41.99784	38.01822	41.24952
Iroko	1240	43.08104	37.9644	41.11898
Iroko	1245	42.55939	37.47465	40.49999
Iroko	1250	43.68396	37.51568	40.47051
Iroko	1255	41.55704	37.54008	40.41998
Iroko	1260	40.83025	37.68767	40.5042
Iroko	1265	39.41447	37.45486	40.16312
Iroko	1270	39.69965	37.43174	40.05364
Iroko	1275	40.56143	37.30425	39.82625
Iroko	1280	40.51013	37.28752	39.72098
Iroko	1285	41.41785	37.03064	39.34621
Iroko	1290	42.05586	36.72695	38.91671
Iroko	1295	40.73669	36.54847	38.62616
Iroko	1300	40.52467	36.68401	38.68932
Iroko	1305	39.57457	36.59207	38.49562
Iroko	1310	39.36829	36.29631	38.07032
Iroko	1315	39.35465	36.13883	37.80083
Iroko	1320	40.98797	36.20618	37.7882
Iroko	1325	41.08392	36.04477	37.51449
Iroko	1330	40.33871	35.98226	37.35448
Iroko	1335	40.30696	36.11998	37.42606
Iroko	1340	38.84422	36.21607	37.45133
Iroko	1345	39.66022	36.12422	37.26184
Iroko	1350	40.59349	36.17693	37.24079
Iroko	1355	41.68733	36.19872	37.18605
Iroko	1360	41.0207	36.21503	37.12709
Iroko	1365	40.65327	36.17158	37.00077
Iroko	1370	40.15863	35.97562	36.69759
Iroko	1375	39.57085	35.7301	36.33545
Iroko	1380	40.58401	35.79311	36.33966
Iroko	1385	40.25796	35.80434	36.28492
Iroko	1390	40.53163	35.63066	36.01122
Iroko	1395	39.61576	35.55464	35.85542
Iroko	1400	39.55051	35.51561	35.74593

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	1405	39.97354	35.31993	35.44696
Iroko	1410	39.78864	35.27525	35.33327
Iroko	1415	40.54694	35.00884	34.94587
Iroko	1420	40.15604	35.10757	35.01325
Iroko	1425	39.72805	34.9155	34.71849
Iroko	1430	39.85057	34.97033	34.73533
Iroko	1435	38.84129	34.89391	34.58795
Iroko	1440	39.00243	34.80704	34.42794
Iroko	1445	39.84012	34.80483	34.37741
Iroko	1450	39.94378	34.6	34.0658
Iroko	1455	40.43939	34.78384	34.2595
Iroko	1460	40.41046	34.86246	34.31845
Iroko	1465	38.38364	35.18731	34.69743
Iroko	1470	37.68729	35.24997	34.73954
Iroko	1475	38.45175	35.21688	34.65953
Iroko	1480	36.53251	35.1541	34.54163
Iroko	1485	38.24943	34.84183	34.09528
Iroko	1490	38.41204	35.0154	34.28898
Iroko	1495	38.55554	34.82597	34.00264
Iroko	1500	39.01697	34.76078	33.88053
Iroko	1505	39.97964	34.64603	33.69104
Iroko	1510	38.35857	34.60314	33.5984
Iroko	1515	36.65088	34.44401	33.34575
Iroko	1520	37.08321	34.23274	33.0173
Iroko	1525	38.32857	34.132	32.84045
Iroko	1530	38.1093	34.34779	33.10994
Iroko	1535	37.237	34.44647	33.21521
Iroko	1540	37.73136	34.58974	33.38365
Iroko	1545	38.22701	34.69346	33.49734
Iroko	1550	37.8892	34.83603	33.66577
Iroko	1555	38.94369	34.70705	33.45523
Iroko	1560	38.352	34.65103	33.34575
Iroko	1565	38.31715	34.5601	33.18574
Iroko	1570	37.28127	34.57284	33.1731
Iroko	1575	38.66804	34.66176	33.26995
Iroko	1580	39.12127	34.59211	33.13942
Iroko	1585	38.90658	34.47408	32.93729
Iroko	1590	37.83413	34.58791	33.07204
Iroko	1595	37.66226	34.51682	32.93729
Iroko	1600	37.94681	34.53231	32.92887

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Iroko	1605	38.80566	34.42827	32.7436
Iroko	1610	38.48322	34.37916	32.63832
Iroko	1615	39.80245	34.13857	32.2425
Iroko	1620	40.22564	34.06444	32.09512
Iroko	1625	38.78169	34.02133	31.99406
Iroko	1630	36.64584	33.93267	31.82142
Iroko	1635	37.39156	33.93946	31.79615
Iroko	1640	36.61485	34.03794	31.91406
Iroko	1645	37.45145	33.93989	31.72457
Iroko	1650	36.95119	33.99771	31.77931
Iroko	1655	36.33231	34.20272	32.06565
Iroko	1660	37.52564	34.21976	32.05723
Iroko	1665	38.62555	34.24216	32.05723
Iroko	1670	38.15552	33.97352	31.59403
Iroko	1675	38.57647	33.95486	31.52666
Iroko	1680	37.37541	34.01474	31.58561
Iroko	1685	38.88194	34.10314	31.69088
Iroko	1690	39.0852	34.15999	31.74562
Iroko	1695	38.85758	34.13348	31.66562
Iroko	1700	36.68255	34.20303	31.74141
Iroko	1705	36.43547	34.31119	31.88037
Iroko	1710	36.46323	34.21246	31.68246
Iroko	1715	38.00501	34.27626	31.74983
Iroko	1720	36.62461	34.42715	31.96038
Iroko	1725	36.91101	34.27795	31.67825
Iroko	1730	35.52839	34.37676	31.80458
Iroko	1735	34.47592	34.41671	31.83405
Iroko	1740	33.57686	34.21927	31.46771
Iroko	1745	35.35574	34.11181	31.24874
Iroko	1750	36.08518	34.18444	31.33296
Iroko	1755	37.84802	34.09778	31.14768
Iroko	1760	37.41548	34.18968	31.26559
Iroko	1765	37.15015	34.0494	30.98767
Iroko	1770	36.95447	33.95187	30.78134
Iroko	1775	36.53423	34.0307	30.87819
Iroko	1780	36.33657	34.04564	30.86555
Iroko	1785	36.65557	33.82237	30.44026
Iroko	1790	37.39743	33.81081	30.38131
Iroko	1795	37.17406	33.78459	30.29709
Iroko	1800	36.71644	34.17759	30.94556

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	0	3.966704	0	0
Pine	5	2.213278	0	0
Pine	10	1.868233	0	0
Pine	15	27.28802	0	0
Pine	20	95.54588	155.1449179	27.53476991
Pine	25	156.3004	161.7108282	44.28554445
Pine	30	180.7705	148.8154338	58.33716201
Pine	35	189.1538	143.5949745	70.11912962
Pine	40	184.0419	140.2486861	77.88815401
Pine	45	179.594	136.9700287	82.73905704
Pine	50	172.4812	134.2601508	86.53303589
Pine	55	164.0904	131.6015991	89.2658797
Pine	60	159.319	128.4927011	90.79441946
Pine	65	149.3305	124.6215053	91.0344381
Pine	70	144.5367	120.6801106	90.73546751
Pine	75	142.2074	117.6966407	90.9081125
Pine	80	136.5026	114.0051779	90.06594183
Pine	85	133.448	111.2290506	89.75012783
Pine	90	133.3104	108.6003124	89.29114482
Pine	95	125.467	106.1275445	88.73110133
Pine	100	121.0123	103.4555212	87.77102677
Pine	105	117.5215	100.0009042	85.89298618
Pine	110	115.6815	97.36806944	84.61288677
Pine	115	112.5955	95.35861103	83.77071611
Pine	120	111.8026	94.42188193	83.80019208
Pine	125	110.5292	92.63045407	82.92854544
Pine	130	110.7003	90.73574378	81.87162126
Pine	135	109.5668	89.54339577	81.38316227
Pine	140	108.9341	88.9988113	81.4168491
Pine	145	106.5107	88.06459814	81.03366144
Pine	150	106.0107	86.81313651	80.31360552
Pine	155	104.3595	85.27816311	79.30300073
Pine	160	106.3822	84.84300417	79.23983793
Pine	165	106.192	84.92687351	79.60197131
Pine	170	109.0315	84.2640827	79.27352475
Pine	175	104.6713	83.59255277	78.91560222
Pine	180	101.9119	83.71541972	79.23141622
Pine	185	99.07124	82.89729776	78.70927041
Pine	190	96.54634	81.9125169	78.03553387
Pine	195	96.23149	81.82887227	78.12396179
Pine	200	97.03269	81.45716985	77.95552766

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	205	97.96924	81.29972603	77.95973851
Pine	210	98.70122	80.88209411	77.73656329
Pine	215	98.40776	81.43382931	78.3218719
Pine	220	100.7221	81.39380714	78.40187811
Pine	225	99.35995	81.46584897	78.57031225
Pine	230	98.74127	80.83385912	78.14501606
Pine	235	98.19157	81.01757287	78.39766726
Pine	240	97.73575	81.24148279	78.67979443
Pine	245	100.4077	82.53151248	79.85041166
Pine	250	102.3942	83.23829384	80.5325699
Pine	255	104.3898	82.96827639	80.38940088
Pine	260	101.822	83.91536112	81.26946923
Pine	265	102.5642	85.0083165	82.27586318
Pine	270	104.7775	86.06682954	83.256992
Pine	275	107.689	88.05958268	85.05502637
Pine	280	109.8413	88.2081036	85.25293648
Pine	285	112.336	89.42448549	86.38565602
Pine	290	109.6305	90.08694328	87.03412744
Pine	295	112.714	91.97471886	88.77320986
Pine	300	113.542	93.39279029	90.10383951
Pine	305	111.7823	94.55176389	91.20708308
Pine	310	117.3531	96.07301422	92.64298407
Pine	315	113.9764	97.44582491	93.95255945
Pine	320	114.794	97.41852756	93.99045713
Pine	325	113.1278	97.22583535	93.87676409
Pine	330	115.7536	97.45172869	94.14625871
Pine	335	118.7569	98.1138816	94.81999524
Pine	340	115.945	98.76824728	95.49373177
Pine	345	117.1547	99.71949935	96.45801718
Pine	350	116.79	100.8760208	97.64547782
Pine	355	116.6794	101.5609416	98.40764228
Pine	360	116.8647	101.5281236	98.46659422
Pine	365	116.6325	101.4566125	98.48764849
Pine	370	115.3576	101.8637913	99.0097943
Pine	375	115.7362	102.3243623	99.61615718
Pine	380	117.7387	102.7328963	100.2014658
Pine	385	119.3084	102.9873204	100.6436054
Pine	390	122.3342	103.2384569	101.115221
Pine	395	122.9727	103.4900195	101.6289451
Pine	400	122.7028	104.0417466	102.6437607

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	405	122.0666	104.3936905	103.4775097
Pine	410	123.6839	104.8628724	104.6228618
Pine	415	125.0438	104.5596659	104.4081083
Pine	420	126.3973	104.5662936	104.7660308
Pine	425	129.9015	104.673151	105.3176526
Pine	430	127.1921	105.0201005	106.2903597
Pine	435	130.9467	105.2108405	106.9219877
Pine	440	133.542	106.1598076	108.5936965
Pine	445	130.6929	106.9728565	109.8148439
Pine	450	131.6348	106.942148	109.9369587
Pine	455	133.2864	106.6148892	109.7053618
Pine	460	135.6052	107.4750947	110.8086053
Pine	465	134.8627	108.3196631	111.7981559
Pine	470	135.0961	109.0996646	112.6613808
Pine	475	138.5133	108.4004999	112.080283
Pine	480	139.7684	109.485522	113.2045809
Pine	485	140.8497	111.2243378	114.8552354
Pine	490	141.048	112.6271807	116.1437565
Pine	495	142.5162	113.8514917	117.2470001
Pine	500	146.4237	115.5152967	118.6871119
Pine	505	147.8858	117.2690907	120.1693323
Pine	510	148.6512	118.7610175	121.4199557
Pine	515	150.7934	120.3274718	122.7126877
Pine	520	152.9537	122.3366472	124.3296554
Pine	525	154.2394	123.094938	124.9781268
Pine	530	155.5165	124.9943052	126.4856123
Pine	535	154.4462	126.286786	127.525693
Pine	540	156.1954	126.5867468	127.8204528
Pine	545	158.2013	128.2117871	129.1005522
Pine	550	161.1494	130.2990815	130.713309
Pine	555	160.6697	131.9114362	131.9681433
Pine	560	165.0011	133.2303489	133.0040132
Pine	565	166.007	134.0266011	133.6566955
Pine	570	167.08	135.7970823	135.0168011
Pine	575	168.6049	137.8392988	136.570606
Pine	580	171.015	139.5995766	137.9180791
Pine	585	172.0285	141.599423	139.4381971
Pine	590	173.3684	142.6896194	140.301422
Pine	595	180.7424	144.6222731	141.7752207
Pine	600	176.5262	146.9399702	143.5311465

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	605	179.6208	149.6838685	145.6028864
Pine	610	185.4618	153.0814659	148.1630852
Pine	615	191.2493	157.2915804	151.3422795
Pine	620	190.0835	159.5148498	153.0813619
Pine	625	189.0787	161.0734644	154.340407
Pine	630	197.0974	163.5413975	156.2984538
Pine	635	202.6833	166.8238763	158.9133937
Pine	640	205.3364	169.7271012	161.2967367
Pine	645	209.1891	170.9089373	162.3662935
Pine	650	208.5048	173.2604242	164.4211899
Pine	655	208.3429	174.7711453	165.8444583
Pine	660	209.4795	176.7346399	167.7309206
Pine	665	212.0123	177.5848591	168.6909952
Pine	670	217.2751	178.869246	170.1184745
Pine	675	213.2391	180.019234	171.5122669
Pine	680	211.1398	179.3225566	171.0195971
Pine	685	214.9791	179.547228	171.4954235
Pine	690	208.5194	179.233493	171.4027847
Pine	695	202.5463	178.3595877	170.7079939
Pine	700	205.1621	177.1884013	169.7142325
Pine	705	198.97	175.4247169	168.1562168
Pine	710	194.1964	172.0721031	165.1833544
Pine	715	186.1785	168.2777533	161.9831058
Pine	720	182.0194	163.6936068	158.2607115
Pine	725	174.6227	158.9780823	154.5677931
Pine	730	164.2918	154.3841194	151.0769957
Pine	735	154.2775	148.8200085	146.9419377
Pine	740	145.0947	142.3906531	142.255258
Pine	745	136.8502	136.6045455	138.0780915
Pine	750	127.1473	128.5197744	132.1028906
Pine	755	116.5142	121.5361835	126.6119379
Pine	760	107.7061	114.4586584	120.3967184
Pine	765	94.70236	108.5674562	114.7331206
Pine	770	84.40045	101.525869	108.3873647
Pine	775	74.90185	94.15206525	102.5258568
Pine	780	69.77367	88.61066628	97.65811038
Pine	785	66.11808	85.16892183	93.41778108
Pine	790	62.14848	83.0953256	89.44273554
Pine	795	57.22961	81.27725413	85.44242488
Pine	800	57.01636	79.20293795	81.4884336

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	805	54.60124	77.33676471	78.15764862
Pine	810	51.91307	74.84544929	74.16154881
Pine	815	49.43566	73.45700352	72.30035164
Pine	820	48.57031	71.62048889	70.14439474
Pine	825	45.7982	69.01011701	67.4410269
Pine	830	45.19839	66.4793689	65.06610562
Pine	835	44.24049	63.83081636	62.71644947
Pine	840	44.64881	61.87971071	61.06579496
Pine	845	45.315	60.3495652	59.81517152
Pine	850	43.54276	58.38337483	58.19399299
Pine	855	41.32263	56.80582126	56.92231529
Pine	860	42.17047	55.06362807	55.50746857
Pine	865	41.22899	53.45487685	54.20631489
Pine	870	41.65838	52.09669579	53.11991473
Pine	875	40.09018	50.87989525	52.15141847
Pine	880	40.04483	49.93538672	51.41872999
Pine	885	38.40305	48.04391546	49.81860572
Pine	890	41.5139	46.94163878	48.91748311
Pine	895	40.14075	46.48975982	48.60587997
Pine	900	39.52866	45.64993636	47.92793258
Pine	905	38.51093	44.61650762	47.05628594
Pine	910	38.64076	43.39737515	45.99094005
Pine	915	39.23831	42.39614558	45.11508256
Pine	920	39.02523	41.52000826	44.3444964
Pine	925	38.95528	41.13084043	44.04131496
Pine	930	34.74477	39.51303174	42.50014264
Pine	935	34.49608	38.52217063	41.56112235
Pine	940	33.52827	38.11647943	41.20741067
Pine	945	33.5059	37.17670743	40.28944464
Pine	950	33.67267	36.65304194	39.79256395
Pine	955	33.35055	36.13417983	39.2914724
Pine	960	33.39191	35.92530253	39.11461656
Pine	965	31.58311	35.41280382	38.60510331
Pine	970	32.39581	34.53288874	37.68292643
Pine	975	33.79505	33.68942051	36.78180382
Pine	980	34.79262	32.50042756	35.46801758
Pine	985	35.04575	32.08995517	35.02166713
Pine	990	33.59179	31.99426829	34.93323921
Pine	995	35.72597	31.83551251	34.76901593
Pine	1000	33.67403	31.15001431	33.98158636

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	1005	33.3413	31.02067761	33.8426282
Pine	1010	33.97434	31.64193168	34.59216009
Pine	1015	32.80183	31.59134678	34.5458407
Pine	1020	35.24219	31.0903057	33.96053209
Pine	1025	35.06338	30.78218674	33.5983987
Pine	1030	35.99084	29.94628843	32.58358305
Pine	1035	34.25368	29.68944284	32.26776905
Pine	1040	32.26571	29.60803429	32.16670857
Pine	1045	33.19806	29.49131697	32.01932871
Pine	1050	33.85735	29.30325509	31.77931007
Pine	1055	33.97984	29.1742259	31.61087593
Pine	1060	32.80091	28.83739548	31.17294719
Pine	1065	32.54595	28.8505235	31.18136889
Pine	1070	32.87841	28.72160499	31.00451305
Pine	1075	32.48248	28.66573893	30.92029599
Pine	1080	32.81984	28.42210251	30.58763857
Pine	1085	31.62916	28.59646931	30.80239209
Pine	1090	32.86077	28.35680863	30.46973468
Pine	1095	33.94979	28.01136386	29.9896974
Pine	1100	33.10474	27.65390465	29.484395
Pine	1105	33.74325	27.45001195	29.18121356
Pine	1110	31.972	27.27093141	28.9075081
Pine	1115	33.15222	27.23064028	28.82329103
Pine	1120	34.77222	26.90745656	28.3390429
Pine	1125	33.68279	26.88313507	28.27166924
Pine	1130	33.11761	26.94593496	28.32641034
Pine	1135	31.4588	26.80613868	28.09060255
Pine	1140	29.84261	26.47428153	27.57266759
Pine	1145	30.34595	26.5754204	27.67793892
Pine	1150	29.94836	26.73257193	27.86321647
Pine	1155	31.64864	26.95191641	28.13692194
Pine	1160	31.85654	26.83249322	27.91795756
Pine	1165	32.37345	26.66413192	27.62319783
Pine	1170	30.85759	26.61033493	27.49266138
Pine	1175	31.25257	26.53299683	27.32422725
Pine	1180	32.18509	26.55115751	27.29475127
Pine	1185	32.14901	26.42729067	27.05052178
Pine	1190	31.52158	26.36778883	26.89893106
Pine	1195	30.00712	26.37454619	26.84418997
Pine	1200	28.68202	26.1502683	26.43573719

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	1205	29.28329	26.36009659	26.68417754
Pine	1210	30.38483	26.6415178	27.03788922
Pine	1215	27.81535	26.38638083	26.57469535
Pine	1220	30.83846	26.33082404	26.41047207
Pine	1225	29.10426	26.24471073	26.19571855
Pine	1230	31.28807	26.19379511	26.03149527
Pine	1235	30.51767	25.86008758	25.42513239
Pine	1240	31.78478	25.79234238	25.22722229
Pine	1245	32.57911	26.07554384	25.57251226
Pine	1250	31.51276	26.0247515	25.39565642
Pine	1255	30.30338	25.58652528	24.6124377
Pine	1260	31.30207	25.68243615	24.65875709
Pine	1265	30.53078	25.94791239	24.96614938
Pine	1270	30.43898	26.09073139	25.07984242
Pine	1275	31.328	25.80645031	24.52822064
Pine	1280	32.83972	26.0445789	24.78508269
Pine	1285	30.41958	26.24632368	24.9829928
Pine	1290	29.4413	26.32163645	24.9829928
Pine	1295	29.79929	26.34898338	24.90719744
Pine	1300	30.84691	25.92205679	24.13240042
Pine	1305	29.63594	25.72237572	23.71131509
Pine	1310	29.57634	25.65422701	23.49235072
Pine	1315	29.73074	25.44297463	23.06284368
Pine	1320	29.80618	25.43947285	22.94493978
Pine	1325	30.75214	25.96591583	23.61025461
Pine	1330	29.86247	25.85649198	23.33233829
Pine	1335	29.47731	26.08749049	23.55972437
Pine	1340	30.37014	26.18744794	23.5934112
Pine	1345	29.90774	26.2184498	23.52603754
Pine	1350	29.47472	26.55622199	23.91343605
Pine	1355	29.45667	26.12620871	23.17232586
Pine	1360	28.27272	25.96400147	22.8354576
Pine	1365	28.76724	26.18322908	23.04600026
Pine	1370	29.56698	26.41822911	23.28180805
Pine	1375	29.76963	26.51699425	23.32391658
Pine	1380	28.66635	26.47314833	23.16390416
Pine	1385	28.70845	26.52745405	23.14706074
Pine	1390	29.23825	26.73397157	23.3491817
Pine	1395	27.88834	26.51994647	22.95757234
Pine	1400	28.60023	26.99402436	23.54288096

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	1405	28.68484	26.82298913	23.2144344
Pine	1410	28.9016	26.61163207	22.83966845
Pine	1415	28.69697	26.55307493	22.68386688
Pine	1420	28.66805	26.7327265	22.85651186
Pine	1425	30.18175	26.94052128	23.07126538
Pine	1430	28.77699	27.24148892	23.42076621
Pine	1435	29.73705	27.42215084	23.60604376
Pine	1440	28.95674	27.33008387	23.40813365
Pine	1445	28.88829	27.30717545	23.31128402
Pine	1450	28.75346	27.32472988	23.27338634
Pine	1455	29.03066	27.27950315	23.1512716
Pine	1460	28.92399	27.78599725	23.79974301
Pine	1465	29.80352	27.81272831	23.77868874
Pine	1470	31.04813	27.51206239	23.30286232
Pine	1475	29.48858	27.21447317	22.84809016
Pine	1480	29.43143	26.84171402	22.31331179
Pine	1485	27.85983	26.91891818	22.36805288
Pine	1490	27.28747	26.95585068	22.37226373
Pine	1495	28.12628	26.90256381	22.26278155
Pine	1500	28.87246	27.04690006	22.40595056
Pine	1505	28.17988	26.6535024	21.87538304
Pine	1510	29.21562	26.34370722	21.46693027
Pine	1515	28.43209	26.68365118	21.84169621
Pine	1520	28.87683	26.78069718	21.92591328
Pine	1525	27.08981	26.64433066	21.72800317
Pine	1530	27.0868	26.7304066	21.79958768
Pine	1535	27.71388	26.7353605	21.77432256
Pine	1540	27.94511	26.57957728	21.55956904
Pine	1545	27.33787	26.75046862	21.73221403
Pine	1550	26.06188	26.78209266	21.74063573
Pine	1555	26.04472	27.05998486	22.04381717
Pine	1560	25.67944	27.34350405	22.35963117
Pine	1565	25.16396	27.37853385	22.37226373
Pine	1570	27.0886	27.61358922	22.63333664
Pine	1575	27.9039	26.92809383	21.77432256
Pine	1580	26.9142	26.67745042	21.45850856
Pine	1585	25.86865	27.18412714	22.02276291
Pine	1590	25.17128	27.11037088	21.90906987
Pine	1595	26.87248	27.25050464	22.04802803
Pine	1600	28.15604	27.08940359	21.83327451

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Pine	1605	28.363	27.10368403	21.8248528
Pine	1610	28.28351	27.54019851	22.31331179
Pine	1615	27.27072	27.70248797	22.48174592
Pine	1620	27.26376	27.34520622	22.03118461
Pine	1625	27.3741	27.06983957	21.69010549
Pine	1630	27.57431	27.2085073	21.8248528
Pine	1635	27.52241	27.1400811	21.72379232
Pine	1640	27.64561	26.90797631	21.44166515
Pine	1645	26.64251	26.53659651	21.01636896
Pine	1650	27.62181	26.62151243	21.08795347
Pine	1655	27.03105	26.32617748	20.75529605
Pine	1660	27.3786	26.45568434	20.87319995
Pine	1665	27.26597	26.08806804	20.47316888
Pine	1670	27.6949	26.14967471	20.51948827
Pine	1675	27.7353	26.26031583	20.61633789
Pine	1680	25.95073	26.19048794	20.52790997
Pine	1685	26.91449	26.27247072	20.59528363
Pine	1690	27.90835	26.41571075	20.72582008
Pine	1695	27.52642	26.25898507	20.54896424
Pine	1700	27.50936	26.43153388	20.70897667
Pine	1705	28.83446	26.24851528	20.50685571
Pine	1710	26.14543	26.32215808	20.56580765
Pine	1715	26.27924	26.135872	20.36368669
Pine	1720	26.78203	25.78688345	20.00576416
Pine	1725	26.50935	25.47727473	19.69416102
Pine	1730	27.79563	24.80764083	19.05411131
Pine	1735	25.39719	25.57358732	19.76153467
Pine	1740	25.01489	25.8319782	19.99734245
Pine	1745	26.26227	25.77496396	19.9299688
Pine	1750	26.87841	25.77445356	19.91733624
Pine	1755	25.36614	25.62330408	19.76153467
Pine	1760	25.51415	25.59964286	19.72784784
Pine	1765	27.71921	25.34171361	19.47519664
Pine	1770	25.07797	25.34820549	19.47098579
Pine	1775	25.4659	25.31357648	19.42887726
Pine	1780	26.38631	25.03980466	19.16780435
Pine	1785	26.63656	25.11888009	19.23096715
Pine	1790	26.83959	25.18394125	19.28149739
Pine	1795	26.68673	24.88723989	19.00358107
Pine	1800	26.51815	25.38233682	19.44572067

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	0	6.938907	0	0
Paulownia	5	4.005165	0	0
Paulownia	10	5.297211	0	0
Paulownia	15	3.041227	0	0
Paulownia	20	2.344282	0	0
Paulownia	25	1.270378	0	0
Paulownia	30	5.194856	0	0
Paulownia	35	4.033234	0	0
Paulownia	40	1.635	0	0
Paulownia	45	0.203688	0	0
Paulownia	50	0.083099	0	0
Paulownia	55	0.082124	0	0
Paulownia	60	0.02015	0	0
Paulownia	65	1.012949	0	0
Paulownia	70	3.144003	0	0
Paulownia	75	2.982001	0	0
Paulownia	80	2.576306	0	0
Paulownia	85	2.507884	0	0
Paulownia	90	3.191031	0	0
Paulownia	95	4.796626	0	0
Paulownia	100	3.590138	0	0
Paulownia	105	1.300314	0	0
Paulownia	110	1.470114	0	0
Paulownia	115	1.234413	0	0
Paulownia	120	0.05002	0	0
Paulownia	125	0.18266	0	0
Paulownia	130	0.25767	0	0
Paulownia	135	1.02531	0	0
Paulownia	140	0.485333	0	0
Paulownia	145	7.642197	0	0
Paulownia	150	5.080558	0	0
Paulownia	155	12.47628	0	0
Paulownia	160	128.1825	144.9742461	21.8981545
Paulownia	165	157.3037	161.1656048	41.02701592
Paulownia	170	140.0899	148.0641368	50.64837777
Paulownia	175	119.8374	137.4361426	56.50008516
Paulownia	180	104.0381	128.6502019	58.89525935
Paulownia	185	92.68281	120.4750543	59.52556834
Paulownia	190	86.61987	112.6376685	59.01318813
Paulownia	195	78.13028	105.4747818	58.19581969
Paulownia	200	73.01549	98.60167773	56.66681206

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	205	68.72099	92.29580427	54.80028412
Paulownia	210	67.05401	86.91225742	53.19807932
Paulownia	215	62.17346	82.29687196	51.80326651
Paulownia	220	58.4138	78.29773192	50.538582
Paulownia	225	56.7006	74.48141137	48.66392105
Paulownia	230	56.00348	71.12328307	47.06171625
Paulownia	235	54.17822	68.30708428	46.02475629
Paulownia	240	54.10898	65.83253211	45.17485577
Paulownia	245	51.88463	63.68965677	44.5160812
Paulownia	250	50.58516	61.26699411	43.23106415
Paulownia	255	50.53612	59.25181809	42.35269807
Paulownia	260	49.65082	57.1806148	41.29540556
Paulownia	265	49.89173	55.46684033	40.54310127
Paulownia	270	51.1296	54.06210509	40.01445502
Paulownia	275	50.5646	53.07228709	39.80299651
Paulownia	280	46.1755	51.62435378	39.06695827
Paulownia	285	45.16444	50.12776825	38.24145681
Paulownia	290	46.15127	48.94854766	37.66401243
Paulownia	295	44.7721	47.95046645	37.20449684
Paulownia	300	44.21795	46.9820693	36.73278172
Paulownia	305	40.37734	45.73318146	35.99267697
Paulownia	310	39.95859	44.88984557	35.56975996
Paulownia	315	40.00805	44.25826974	35.29730381
Paulownia	320	38.32813	43.28447721	34.71985944
Paulownia	325	38.36535	42.19687672	34.03261931
Paulownia	330	36.90887	41.49230065	33.64223438
Paulownia	335	32.84791	40.01973635	32.61340744
Paulownia	340	31.12939	38.32782631	31.39345454
Paulownia	345	37.31471	37.53115	30.88514084
Paulownia	350	36.5462	36.73583633	30.3646276
Paulownia	355	35.24073	35.38596387	29.37646575
Paulownia	360	37.04883	34.97383676	29.1446747
Paulownia	365	31.88837	33.92536777	28.37610438
Paulownia	370	30.61557	33.06026155	27.74579538
Paulownia	375	29.89264	31.96995741	26.9121609
Paulownia	380	27.45902	31.45226467	26.55024154
Paulownia	385	27.13414	30.79729476	26.06226039
Paulownia	390	26.97345	30.00794357	25.44821743
Paulownia	395	27.70795	29.71685803	25.25709147
Paulownia	400	26.72208	29.841745	25.42381837

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	405	24.81392	28.40930667	24.22013151
Paulownia	410	24.911	27.77274989	23.70368478
Paulownia	415	22.09933	27.07744174	23.12624041
Paulownia	420	21.78667	26.36013394	22.52033047
Paulownia	425	22.09356	26.10288039	22.32513801
Paulownia	430	21.08518	25.12430331	21.46710447
Paulownia	435	19.00575	23.86358553	20.3406813
Paulownia	440	17.71543	23.12642979	19.69003975
Paulownia	445	18.34388	22.33863157	18.99060009
Paulownia	450	17.57426	21.50624972	18.25049534
Paulownia	455	16.62642	21.12287515	17.92110805
Paulownia	460	16.96059	21.06638218	17.88857598
Paulownia	465	15.78695	20.52804418	17.41686086
Paulownia	470	15.96713	20.18193532	17.12000565
Paulownia	475	16.90279	19.9847849	16.95734527
Paulownia	480	15.95235	19.9462642	16.93701272
Paulownia	485	15.59463	19.93101092	16.93701272
Paulownia	490	14.68659	19.76770611	16.8028179
Paulownia	495	15.04131	19.49633704	16.57102685
Paulownia	500	15.95907	19.46962375	16.55882732
Paulownia	505	16.24248	19.47504727	16.57509336
Paulownia	510	16.19921	19.20484429	16.34330231
Paulownia	515	15.8899	19.25207312	16.39616693
Paulownia	520	15.65997	19.22713232	16.3839674
Paulownia	525	15.88142	19.31547539	16.47343062
Paulownia	530	16.16473	19.03330216	16.22944004
Paulownia	535	15.26422	18.47223156	15.73739237
Paulownia	540	15.13438	18.44863163	15.72519284
Paulownia	545	15.64552	18.36121388	15.65606218
Paulownia	550	16.71463	18.4976585	15.78619048
Paulownia	555	15.29649	18.16381381	15.4974683
Paulownia	560	15.44969	17.6953837	15.09081733
Paulownia	565	14.4723	17.59889838	15.01355365
Paulownia	570	14.20662	17.04016159	14.529639
Paulownia	575	16.29616	17.90226487	15.29820933
Paulownia	580	15.65021	18.74778748	16.06271314
Paulownia	585	14.9261	18.64282412	15.97731644
Paulownia	590	14.2429	18.7860545	16.11557777
Paulownia	595	14.29354	18.39154784	15.76992445
Paulownia	600	15.16336	18.34484307	15.73739237

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	605	14.46861	18.72234489	16.0871122
Paulownia	610	16.87608	18.61204444	15.99764899
Paulownia	615	15.91141	18.65000354	16.04238059
Paulownia	620	15.76073	18.46702959	15.88785323
Paulownia	625	16.57893	18.43229143	15.86752068
Paulownia	630	15.84607	18.63090437	16.05864663
Paulownia	635	14.94546	18.3975717	15.85938766
Paulownia	640	15.63	18.44689388	15.91631879
Paulownia	645	14.39776	17.96469354	15.49340179
Paulownia	650	14.76859	18.48078565	15.97324993
Paulownia	655	14.52662	18.78259294	16.26197211
Paulownia	660	15.10908	18.77974402	16.27417164
Paulownia	665	15.10895	19.10468572	16.58729289
Paulownia	670	14.99928	19.10015201	16.59949242
Paulownia	675	14.69078	18.82920557	16.36770137
Paulownia	680	15.82575	18.7347919	16.2985707
Paulownia	685	16.96879	18.74610825	16.32703627
Paulownia	690	19.69124	18.13510023	15.78619048
Paulownia	695	22.99126	19.02208903	16.61982496
Paulownia	700	22.14672	19.94416871	17.49819105
Paulownia	705	19.4105	20.11953002	17.68525049
Paulownia	710	17.23472	20.05122744	17.6445854
Paulownia	715	17.49824	19.7046839	17.34366368
Paulownia	720	15.69549	19.75195582	17.41279435
Paulownia	725	16.56261	19.81545198	17.49819105
Paulownia	730	16.94068	20.13623784	17.82757833
Paulownia	735	15.12796	20.20541835	17.92110805
Paulownia	740	16.98923	20.43158048	18.16509863
Paulownia	745	17.9319	20.49372059	18.25456185
Paulownia	750	19.44275	20.33761049	18.13663307
Paulownia	755	19.19548	20.22770794	18.06343589
Paulownia	760	18.99484	20.10016331	17.97397268
Paulownia	765	20.16209	20.44752764	18.33995855
Paulownia	770	18.30799	20.60174401	18.52295148
Paulownia	775	20.56233	20.80885952	18.75880904
Paulownia	780	22.06593	20.82555462	18.81167367
Paulownia	785	23.97476	20.97088278	18.99060009
Paulownia	790	22.26753	20.97318408	19.03126519
Paulownia	795	23.79308	20.71699264	18.81980669
Paulownia	800	22.1327	20.99655465	19.13292793

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	805	22.71251	20.81507606	18.9946666
Paulownia	810	23.74234	21.38752849	19.60057654
Paulownia	815	24.86269	21.12780958	19.38505153
Paulownia	820	24.85444	21.17976894	19.47858125
Paulownia	825	24.48703	21.2351709	19.57617748
Paulownia	830	25.21344	21.63855655	20.02349355
Paulownia	835	25.58523	21.79637341	20.22681903
Paulownia	840	25.7337	21.96489259	20.44234404
Paulownia	845	24.78037	21.88815717	20.40981196
Paulownia	850	24.73012	21.83983055	20.40574545
Paulownia	855	25.1595	21.91906864	20.53180725
Paulownia	860	23.33781	21.72472548	20.37727989
Paulownia	865	22.26931	21.88708797	20.58873839
Paulownia	870	21.96148	21.90706882	20.65380254
Paulownia	875	21.63857	21.32425493	20.09262421
Paulownia	880	21.8185	20.90573299	19.69817277
Paulownia	885	21.26479	20.5649223	19.38098502
Paulownia	890	21.11754	20.44134082	19.2874553
Paulownia	895	21.15665	20.59037083	19.47858125
Paulownia	900	22.35088	20.88477626	19.82423457
Paulownia	905	21.54479	21.31434482	20.31628224
Paulownia	910	21.42225	21.75904753	20.82866246
Paulownia	915	21.35663	21.8529862	20.96692379
Paulownia	920	21.75682	21.66166565	20.79613038
Paulownia	925	22.80562	21.44705006	20.59687141
Paulownia	930	24.27144	21.37333952	20.54807329
Paulownia	935	23.19913	21.30897641	20.5074082
Paulownia	940	22.31437	21.4859422	20.73106623
Paulownia	945	22.55315	21.69527172	20.99132284
Paulownia	950	23.38487	21.75068527	21.08078606
Paulownia	955	22.6759	21.73797889	21.09298559
Paulownia	960	20.46118	21.86376427	21.25971248
Paulownia	965	20.17739	21.87123536	21.29224456
Paulownia	970	20.70927	21.65873575	21.07265304
Paulownia	975	21.85605	21.51725609	20.9303252
Paulownia	980	22.02394	21.27616947	20.67006858
Paulownia	985	21.51221	21.27095354	20.6782016
Paulownia	990	20.80907	21.23223812	20.64566952
Paulownia	995	20.55479	21.15707044	20.56840584
Paulownia	1000	20.93282	21.3816764	20.84086199

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	1005	20.75599	21.52618372	21.01978841
Paulownia	1010	21.72012	21.82815467	21.38577428
Paulownia	1015	22.05781	21.88651116	21.46303796
Paulownia	1020	20.90756	22.08808654	21.71109505
Paulownia	1025	21.5695	22.1304169	21.76802619
Paulownia	1030	22.37396	22.08970774	21.72329458
Paulownia	1035	22.55843	22.10752776	21.74769364
Paulownia	1040	22.73616	21.95024267	21.55656769
Paulownia	1045	23.21571	22.0439354	21.67042996
Paulownia	1050	22.04207	21.70668809	21.25157946
Paulownia	1055	21.08359	21.65243634	21.17838229
Paulownia	1060	19.78508	21.76291724	21.3085106
Paulownia	1065	19.70459	22.01637195	21.61756533
Paulownia	1070	21.00212	22.16208353	21.79242525
Paulownia	1075	21.01682	22.03421198	21.62163184
Paulownia	1080	22.17928	22.00791547	21.57690023
Paulownia	1085	21.16819	22.05626008	21.62569835
Paulownia	1090	21.56017	21.77866755	21.25564597
Paulownia	1095	21.13816	21.63099822	21.04825398
Paulownia	1100	21.9283	21.78407165	21.2271804
Paulownia	1105	22.12932	21.74295829	21.15398323
Paulownia	1110	20.77734	21.9336005	21.38170777
Paulownia	1115	21.61355	22.09571889	21.57283373
Paulownia	1120	22.47394	22.08142483	21.53216863
Paulownia	1125	22.68087	22.08051653	21.50776957
Paulownia	1130	21.18467	21.93979016	21.29631107
Paulownia	1135	22.17944	22.27664106	21.71922807
Paulownia	1140	22.18057	22.22607777	21.62569835
Paulownia	1145	22.2344	22.2463789	21.62569835
Paulownia	1150	22.12474	22.19514766	21.52810212
Paulownia	1155	21.67589	22.28312074	21.61756533
Paulownia	1160	20.42943	22.44891679	21.81275779
Paulownia	1165	19.56298	22.47738776	21.82089081
Paulownia	1170	19.44714	22.31980286	21.57283373
Paulownia	1175	20.37999	22.3620215	21.59723278
Paulownia	1180	19.30183	22.61055393	21.90628752
Paulownia	1185	20.22378	22.94320091	22.33327103
Paulownia	1190	19.44491	23.1341223	22.56506208
Paulownia	1195	20.58336	23.02149947	22.37393613
Paulownia	1200	19.94143	22.94542167	22.23160829

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	1205	19.3653	22.88519317	22.109613
Paulownia	1210	19.39629	23.05644387	22.31293848
Paulownia	1215	19.16974	23.03511584	22.24380782
Paulownia	1220	19.45247	22.96331564	22.10147998
Paulownia	1225	18.54538	23.11494835	22.2763399
Paulownia	1230	18.8007	23.00239118	22.07301441
Paulownia	1235	17.66166	23.04980938	22.09741347
Paulownia	1240	17.70983	23.1625947	22.21534225
Paulownia	1245	19.22295	23.28675039	22.34953707
Paulownia	1250	19.30979	23.24559555	22.24380782
Paulownia	1255	18.5289	23.32011975	22.30480546
Paulownia	1260	18.44321	23.3839243	22.34953707
Paulownia	1265	18.68985	23.31484008	22.19907621
Paulownia	1270	17.846	23.39115041	22.26007386
Paulownia	1275	18.01433	23.18029398	21.8981545
Paulownia	1280	18.08626	22.95981692	21.5199691
Paulownia	1285	20.47661	23.17160297	21.77615921
Paulownia	1290	19.33005	23.31721442	21.93475308
Paulownia	1295	19.68103	23.58378909	22.27227339
Paulownia	1300	17.50918	23.71885866	22.41460122
Paulownia	1305	19.18387	23.67152572	22.28447291
Paulownia	1310	19.71674	23.69083965	22.25194084
Paulownia	1315	19.85022	23.77656225	22.31700499
Paulownia	1320	19.60734	23.76523306	22.2356748
Paulownia	1325	19.03769	23.79855793	22.21940876
Paulownia	1330	19.16651	23.85201419	22.23160829
Paulownia	1335	19.69135	23.98532315	22.3617366
Paulownia	1340	19.40835	24.26856958	22.71552294
Paulownia	1345	19.47474	24.47139546	22.94731399
Paulownia	1350	18.95547	24.39715737	22.76025454
Paulownia	1355	17.49097	24.57830149	22.95544701
Paulownia	1360	16.44729	24.63121765	22.95544701
Paulownia	1365	16.23819	24.62619668	22.8659838
Paulownia	1370	16.60898	24.73887073	22.9513805
Paulownia	1375	17.95313	24.75850981	22.89444936
Paulownia	1380	19.38912	24.84733416	22.93918097
Paulownia	1385	19.78953	24.76696293	22.72772247
Paulownia	1390	20.03116	24.89155002	22.82125219
Paulownia	1395	20.78008	25.13457134	23.08964183
Paulownia	1400	18.88366	25.28975879	23.22383665

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	1405	17.70488	25.30542133	23.14657296
Paulownia	1410	18.78618	25.33875394	23.09370834
Paulownia	1415	18.10491	25.46897134	23.18317155
Paulownia	1420	17.73456	25.46404672	23.06930928
Paulownia	1425	17.76455	25.41870701	22.89444936
Paulownia	1430	17.6533	25.19309199	22.45526632
Paulownia	1435	18.36309	25.34519111	22.56912859
Paulownia	1440	17.00047	25.39235994	22.52846349
Paulownia	1445	18.02283	25.46819535	22.52846349
Paulownia	1450	19.09431	25.5728071	22.56912859
Paulownia	1455	18.31105	25.68367581	22.61792671
Paulownia	1460	17.37636	25.77243245	22.63419275
Paulownia	1465	17.68787	25.90664633	22.71552294
Paulownia	1470	17.91417	25.85649198	22.53253
Paulownia	1475	18.92005	26.12436642	22.80498615
Paulownia	1480	19.06807	26.0933933	22.65045878
Paulownia	1485	18.00239	26.34381619	22.89851587
Paulownia	1490	18.52817	26.51372527	23.03271069
Paulownia	1495	18.17121	26.45229174	22.83751823
Paulownia	1500	19.07569	26.7402919	23.14250645
Paulownia	1505	19.04458	26.92140681	23.29703382
Paulownia	1510	16.87946	27.17430093	23.55729044
Paulownia	1515	15.8896	27.20019767	23.49222628
Paulownia	1520	17.27712	27.1818089	23.36616448
Paulownia	1525	16.23376	26.98045147	22.98391258
Paulownia	1530	17.03611	26.79569119	22.63419275
Paulownia	1535	17.16496	26.86192273	22.63825925
Paulownia	1540	16.95604	27.04963315	22.81311917
Paulownia	1545	16.90121	27.272792	23.04084371
Paulownia	1550	15.97823	27.2907425	22.98391258
Paulownia	1555	17.47592	27.48684077	23.17910504
Paulownia	1560	17.36569	27.44346307	23.04084371
Paulownia	1565	17.27603	27.45017017	22.97577956
Paulownia	1570	18.232	27.44607204	22.89851587
Paulownia	1575	19.08029	27.61936086	23.06930928
Paulownia	1580	17.71082	27.54153345	22.89444936
Paulownia	1585	18.134	27.76198251	23.13437343
Paulownia	1590	16.42503	27.76081326	23.06930928
Paulownia	1595	17.15928	27.7431523	22.98391258
Paulownia	1600	18.44418	27.93620791	23.19130457

Table S2. Predicted and true values of HRR for Iroko, Pine and Paulownia wood (continuation).

Sample (-)	Time (s)	HRR CC Ref. (kW m ⁻²)	HRR NN_Model (kW m ⁻²)	HRR nct_Model (kW m ⁻²)
Paulownia	1605	17.55244	28.17030937	23.45969421
Paulownia	1610	17.08319	28.44971583	23.79721451
Paulownia	1615	16.85447	28.47842137	23.78094847
Paulownia	1620	16.3002	28.4515661	23.68741875
Paulownia	1625	17.15659	28.57268329	23.80534753
Paulownia	1630	17.15688	28.66409918	23.88261121
Paulownia	1635	17.58587	28.71753673	23.90701027
Paulownia	1640	18.44177	28.79012002	23.95987489
Paulownia	1645	17.00758	28.79065245	23.91107678
Paulownia	1650	16.79361	29.17241553	24.41125746
Paulownia	1655	16.98095	29.07976928	24.22826453
Paulownia	1660	16.06487	29.05334995	24.14286783
Paulownia	1665	16.21493	29.11973298	24.19166594
Paulownia	1670	16.15284	29.16859731	24.216065
Paulownia	1675	16.30519	29.17728368	24.18353292
Paulownia	1680	15.72857	29.20249366	24.1753999
Paulownia	1685	15.9913	29.32379377	24.30552821
Paulownia	1690	16.09007	29.29720456	24.22419802
Paulownia	1695	15.96362	29.24694195	24.11033575
Paulownia	1700	15.53091	29.28771181	24.12660179
Paulownia	1705	16.45571	29.31957591	24.1306683
Paulownia	1710	17.57239	29.2992938	24.06153763
Paulownia	1715	17.16178	29.44276786	24.22419802
Paulownia	1720	18.1348	29.37889687	24.09406971
Paulownia	1725	16.98467	29.43571435	24.13473481
Paulownia	1730	17.00079	29.42287129	24.07780367
Paulownia	1735	16.7265	29.56605302	24.24046406
Paulownia	1740	17.27082	29.76525151	24.48445464
Paulownia	1745	18.45484	29.61499927	24.23233104
Paulownia	1750	17.19297	29.52573904	24.06967065
Paulownia	1755	16.30015	29.59633164	24.1306683
Paulownia	1760	15.93581	29.85441587	24.45598907
Paulownia	1765	14.91738	29.83822085	24.39499143
Paulownia	1770	14.07631	29.92245004	24.47632162
Paulownia	1775	17.11153	29.83359114	24.31366123
Paulownia	1780	17.55776	29.79285303	24.22013151
Paulownia	1785	16.94576	29.73952827	24.11033575
Paulownia	1790	17.3667	29.67922309	23.99240697
Paulownia	1795	17.08016	29.51172053	23.73215035
Paulownia	1800	17.26483	29.64904735	23.88261121

Notice: HRR CC Ref.: data measured by the cone calorimeter in accordance with ISO 5660-1:2015; HRR NN_Model: data predicted by trained neural network; nct_Model: data predicted from average molar heat capacity, average chemical amount and temperature rise.