Sample	Phase	(hkl)	2 θ (°)	a (Å)	b (Å)	c (Å)
M2 no HT	α-Fe	(011)	44.55	2.867260	2.867260	2.867260
M2 no HT	ε-$Fe_{2,3}N$	(011)	41.8521	2.873915	2.873915	3.245475
M2 no HT	M_6C	(012)	23.7509	8.334000	8.334000	8.334000
M2 no HT	M_6C	(013)	33.8851	8.334000	8.334000	8.334000
M2 no HT	M_6C	(123)	40.4662	8.334000	8.334000	8.334000
M2 no HT	M_6C	(133)	47.4133	8.334000	8.334000	8.334000
M2 no HT	α-Fe	(002)	64.8965	2.867260	2.867260	2.867260
M2 no HT	α-Fe	(112)	82.2003	2.867260	2.867260	2.867260
M2 no HT Nit. 1.5 h	M_6C	(022)	22.6838	4.157975	4.157975	4.157975
M2 no HT Nit. 1.5 h	γ′-Fe_4N	(011)	33.1739	3.7950	3.7950	3.7950
M2 no HT Nit. 1.5 h	M_6C	(111)	37.2425	4.157975	4.157975	4.157975
M2 no HT Nit. 1.5 h	ε-$Fe_{2,3}N$	(121)	37.5348	5.777282	5.777282	6.161510
M2 no HT Nit. 1.5 h	γ′-Fe_4N	(111)	40.9770	3.7950	3.7950	3.7950
M2 no HT Nit. 1.5 h	ε-$Fe_{2,3}N$	(022)	42.6937	5.777282	5.777282	6.161510
M2 no HT Nit. 1.5 h	M_6C	(002)	43.3056	4.157975	4.157975	4.157975
M2 no HT Nit. 1.5 h	M_6C	(002)	43.3056	4.157975	4.157975	4.157975
M2 no HT Nit. 1.5 h	ε-$Fe_{2,3}N$	(220)	44.1216	5.777282	5.777282	6.161510
M2 no HT Nit. 1.5 h	α-Fe	(011)	44.1757	2.885293	2.885293	2.885293
M2 no HT Nit. 1.5 h	M_6C	(044)	46.5386	4.157975	4.157975	4.157975
M2 no HT Nit. 1.5 h	ε-$Fe_{2,3}N$	(130)	49.6862	5.777282	5.777282	6.161510
M2 no HT Nit. 1.5 h	M_6C	(022)	63.0111	4.157975	4.157975	4.157975

M2 no HT Nit. 1.5 h	α-Fe	(002)	64.3559	2.885293	2.885293	2.885293
M2 no HT Nit. 1.5 h	MC	(228)	72.8155	10.987870	10.987870	10.987870
M2 no HT Nit. 1.5 h	α-Fe	(112)	81.4909	2.885293	2.885293	2.885293
M2 no HT Nit. 1.5 h	γ′-Fe_4N	(113)	84.4396	3.7950	3.7950	3.7950
M2 no HT Nit. 3.5 h	M_6C	(012)	23.7509	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	M_6C	(013)	33.8851	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	ε-$Fe_{2,3}N$	(112)	35.8129	2.819639	2.819639	3.244469
M2 no HT Nit. 3.5 h	γ′-Fe_4N	(121)	38.0771	5.674052	5.674052	6.403984
M2 no HT Nit. 3.5 h	M_6C	(123)	40.4266	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	γ′-Fe_4N	(022)	42.5004	5.674052	5.674052	6.403984
M2 no HT Nit. 3.5 h	ε-$Fe_{2,3}N$	(011)	42.5103	2.819639	2.819639	3.244469
M2 no HT Nit. 3.5 h	M_6C	(004)	43.3569	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	α-Fe	(011)	43.9983	2.905684	2.905684	2.905684
M2 no HT Nit. 3.5 h	α-Fe	(011)	44.1135	2.905684	2.905684	2.905684
M2 no HT Nit. 3.5 h	M_6C	(113)	47.4784	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	γ′-Fe_4N	(031)	50.2199	5.674052	5.674052	6.403984
M2 no HT Nit. 3.5 h	M_6C	(125)	60.7899	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	α-Fe	(002)	63.9991	2.905684	2.905684	2.905684
M2 no HT Nit. 3.5 h	γ′-Fe_4N	(040)	65.7416	5.674052	5.674052	6.403984

M2 no HT Nit. 3.5 h	M_6C	(035)	65.3670	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	M_6C	(026)	71.5060	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	M_6C	(145)	73.5583	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	M_6C	(335)	74.7933	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	α-Fe	(112)	81.1912	2.905684	2.905684	2.905684
M2 no HT Nit. 3.5 h	M_6C	(117)	82.8220	8.334000	8.334000	8.334000
M2 no HT Nit. 3.5 h	γ′-Fe_4N	(143)	83.4761	5.674052	5.674052	6.403984
M2 no HT Nit. 3.5 h	M_6C	(227)	88.7433	8.334000	8.334000	8.334000
M2 HT	γ′-Fe_4N	(001)	23.6262	3.795000	3.795000	3.795000
M2 HT	ε-$Fe_{2,3}N$	(112)	36.0498	5.712213	5.712213	6.378718
M2 HT	M_6C	(010)	35.7827	2.911323	2.911323	4.578431
M2 HT	ε-$Fe_{2,3}N$	(121)	38.2110	5.712213	5.712213	6.378718
M2 HT	M_6C	(002)	39.6321	2.911323	2.911323	4.578431
M2 HT	γ′-Fe_4N	(111)	41.4773	3.795000	3.795000	3.795000
M2 HT	α-Fe	(011)	44.9532	2.861781	2.861781	2.861781
M2 HT	γ′-Fe_4N	(002)	48.1059	3.795000	3.795000	3.795000
M2 HT	ε-$Fe_{2,3}N$	(031)	50.1502	5.712213	5.712213	6.378718
M2 HT	M_6C	(012)	54.2691	2.911323	2.911323	4.578431
M2 HT	M_6C	(110)	64.1033	2.911323	2.911323	4.578431
M2 HT	α-Fe	(002)	65.031	2.861781	2.861781	2.861781
M2 HT	γ′-Fe_4N	(003)	75.2286	3.795000	3.795000	3.795000
M2 HT	M_6C	(020)	75.5332	2.911323	2.911323	4.578431
M2 HT	M_6C	(021)	79.0962	2.911323	2.911323	4.578431
M2 HT	α-Fe	(112)	82.349	2.861781	2.861781	2.861781
M2 HT	ε-$Fe_{2,3}N$	(143)	83.3570	5.712213	5.712213	6.378718

M2 HT Nit 1.5 h	MC	(001)	24.914	3.586095	3.586095	3.586095
M2 HT Nit 1.5 h	γ′-Fe_4N	(001)	23.421	3.825492	3.825492	3.825492
M2 HT Nit 1.5 h	γ′-Fe_4N	(011)	33.366	3.825492	3.825492	3.825492
M2 HT Nit 1.5 h	M_6C	(010)	35.673	2.836202	2.836202	4.625246
M2 HT Nit 1.5 h	ε-$Fe_{2,3}N$	(112)	36.149	5.824170	5.824170	6.255318
M2 HT Nit 1.5 h	M_6C	(002)	39.320	2.836202	2.836202	4.625246
M2 HT Nit 1.5 h	M_6C	(011)	40.909	2.836202	2.836202	4.625246
M2 HT Nit 1.5 h	γ′-Fe_4N	(111)	41.168	3.825492	3.825492	3.825492
M2 HT Nit 1.5 h	ε-$Fe_{2,3}N$	(002)	42.697	5.824170	5.824170	6.255318
M2 HT Nit 1.5 h	α-Fe	(011)	43.875	2.922601	2.922601	2.922601
M2 HT Nit 1.5 h	ε-$Fe_{2,3}N$	(013)	46.066	5.824170	5.824170	6.255318
M2 HT Nit 1.5 h	γ′-Fe_4N	(002)	47.905	3.825492	3.825492	3.825492
M2 HT Nit 1.5 h	MC	(002)	50.995	3.586095	3.586095	3.586095
M2 HT Nit 1.5 h	M_6C	(012)	54.126	2.836202	2.836202	4.625246
M2 HT Nit 1.5 h	α-Fe	(002)	63.730	2.922601	2.922601	2.922601
M2 HT Nit 1.5 h	M_6C	(013)	72.360	2.836202	2.836202	4.625246
M2 HT Nit 1.5 h	γ′-Fe_4N	(003)	75.026	3.825492	3.825492	3.825492
M2 HT Nit 1.5 h	M_6C	(020)	75.550	2.836202	2.836202	4.625246
M2 HT Nit 1.5 h	α-Fe	(112)	80.528	2.922601	2.922601	2.922601

M2 HT Nit 1.5 h	ε-$Fe_{2,3}N$	(143)	83.492	5.824170	5.824170	6.255318
M2 HT Nit 3.5 h	γ′-Fe_4N	(001)	23.2611	3.795000	3.795000	3.795000
M2 HT Nit 3.5 h	γ′-Fe_4N	(011)	33.2022	3.795000	3.795000	3.795000
M2 HT Nit 3.5 h	ε-$Fe_{2,3}N$	(112)	35.9529	5.680028	5.680028	6.326791
M2 HT Nit 3.5 h	M_6C	(010)	35.9529	2.854321	2.854321	4.183721
M2 HT Nit 3.5 h	ε-$Fe_{2,3}N$	(121)	37.9851	5.680028	5.680028	6.326791
M2 HT Nit 3.5 h	γ′-Fe_4N	(111)	41.0053	3.795000	3.795000	3.795000
M2 HT Nit 3.5 h	α-Fe	(011)	44.4887	2.867826	2.867826	2.867826
M2 HT Nit 3.5 h	γ′-Fe_4N	(002)	47.7408	3.795000	3.795000	3.795000
M2 HT Nit 3.5 h	ε-$Fe_{2,3}N$	(031)	50.0989	5.680028	5.680028	6.326791
M2 HT Nit 3.5 h	M_6C	(012)	53.8841	2.854321	2.854321	4.183721
M2 HT Nit 3.5 h	α-Fe	(002)	64.8255	2.867826	2.867826	2.867826
M2 HT Nit 3.5 h	γ′-Fe_4N	(003)	74.8635	3.795000	3.795000	3.795000
M2 HT Nit 3.5 h	M_6C	(020)	76.0482	2.854321	2.854321	4.183721
M2 HT Nit 3.5 h	M_6C	(021)	80.1012	2.854321	2.854321	4.183721
M2 HT Nit 3.5 h	ε-$Fe_{2,3}N$	(242)	81.4581	5.680028	5.680028	6.326791
M2 HT Nit 3.5 h	α-Fe	(112)	82.1239	2.867826	2.867826	2.867826

Table S1. Crystallographic information of the different phases obtained from the Rietveld analysis.