

Table S1: the raw count data used to produce Figure 3a.

Sanger-label	sex	age	pathologic staging	TNM-T	TNM-N	TNM-M
MSS	male	74	IVB	3	1b	1b
MSS	male	63	IVC	3	1a	1c
MSS	female	43	IVA	3	0	1a
MSS	male	70	IVA	4b	0	1a
MSS	male	76	IVA	3	2b	1a
MSS	female	74	IVA	2	0	1a
MSS	male	85	IVC	3	1b	1c
MSS	female	69	IVA	4b	0	1a
MSS	male	72	IVA	3	2b	1a
MSS	female	70	IVA	3	2a	1a
MSS	male	55	IVA	4a	2a	1a
MSS	male	73	IVA	3	1b	1a
MSS	female	70	IVA	3	2b	1a
MSS	female	83	IVA	3	0	1a
MSS	female	63	IVB	3	2a	1b
MSS	female	55	IIIC	4b	1b	0
MSI	male	79	IIIC	4b	1b	0
MSS	male	64	IIIB	3	1b	0
MSS	male	70	IIIB	3	2B	0
MSI	female	73	IIIC	4b	2	0
MSS	male	65	IIIB	3	1b	0
MSI	male	78	IIA	3	0	0
MSI	male	56	IIA	3	0	0
MSI	female	76	IIA	3	0	0
MSS	male	87	IIA	3	0	0
MSS	male	61	IIA	3	0	0
MSS	male	39	IIA	3	0	0
MSI	female	81	IIA	3	0	0
MSS	male	62	IIA	3	0	0
MSI	male	36	IIA	3	0	0
MSS	male	75	IIA	3	0	0
MSI	female	72	IIA	3	0	0
MSI	male	37	IIIB	3	1a	0
MSS	male	79	IIIC	3	2b	0
MSI	male	72	IIA	3	0	0
MSS	male	70	IIA	3	0	0
MSI	male	54	IIA	3	0	0
MSS	male	85	IIA	3	0	0
MSI	male	67	IIA	3	0	0
MSS	male	75	IIA	3	0	0
MSI	male	40	IVA	3	2b	1a
MSS	female	71	IIA	3	0	0

MSS	male	61	IIIB	3	1b	0
MSI	male	80	IIA	3	0	0
MSI	male	39	IIA	3	0	0
MSI	male	80	IIIB	3	1a	0
MSI	female	62	IIA	3	0	0
MSI	male	73	IIIB	3	1a	0
MSI	female	75	IIA	3	0	0
MSI	female	68	IIA	3	0	0
MSS	male	83	IIA	3	0	0
MSI	male	87	IIA	3	0	0
MSS	male	88	IIA	3	0	0
MSS	male	84	IIA	3	0	0
MSS	female	69	IIIC	3	2b	0
MSI	female	83	IIA	3	0	0
MSS	female	78	IIA	3	0	0
MSI	female	78	IIA	3	0	0
MSI	female	76	IIA	3	0	0
MSS	male	62	IIIA	1	1b	0
MSI	female	90	IIA	3	0	0
MSI	male	31	IIA	3	0	0
MSI	female	74	IIA	3	0	0
MSS	male	77	IIA	3	0	0
MSS	male	66	IIA	3	0	0
MSI	male	62	IIA	3	0	0
MSI	male	24	IIA	3	0	0
MSS	male	71	IIIIa	3	0	0
MSI	male	57	IIIIa	3	0	0
MSS	male	41	IVB	3	0	1b
MSS	male	72	IVA	3	2a	1a
MSS	male	58	IIIB	3	1b	0
MSS	female	46	IIIC	3	2b	0
MSS	male	64	IIIB	3	1c	0
MSI	female	66	IIIB	3	1a	0
MSI	female	31	IIIB	3	1b	0
MSI	male	77	IIIC	3	2a	0
MSS	female	74	IIIB	3	1c	0
MSS	male	73	IVA	3	2b	1a
MSS	male	51	IIC	4b	0	0
MSS	male	70	I	2	0	0
MSS	male	74	I	2	0	0
MSI	male	60	IIA	3	0	0
MSS	male	61	IIA	3	0	0
MSI	female	42	IIA	3	0	0
MSI	male	79	IIA	3	0	0

MSI	female	67	IIA	3	0	0
MSS	male	47	I	2	0	0
MSS	male	71	IIA	3	0	0
MSI	male	70	IIIC	4b	1a	0
MSS	male	62	I	2	0	0
MSS	male	68	IIIA	2	1b	0
MSI	male	66	IIA	3	0	0
MSS	male	59	IIA	3	0	0
MSS	male	77	IIA	3	0	0
MSS	male	52	IIIC	3	2b	0
MSS	male	73	I	2	0	0
MSS	male	54	IIA	3	0	0
MSI	female	65	IIA	3	0	0
MSI	female	61	I	1	0	0
MSI	male	56	I	2	0	0
MSS	male	71	IIA	3	0	0
MSS	male	64	IIA	3	0	0
MSS	male	78	I	2	0	0
MSI	male	44	IIA	3	0	0
MSS	male	69	IVC	3	2a	1c
MSS	male	67	I	2	0	0
MSS	male	68	IVB	3	2a	1b
MSI	female	84	IIA	3	0	0
MSI	male	67	IIA	3	0	0
MSI	female	80	IIA	3	0	0
MSS	male	64	IVA	3	2a	1a
MSI	male	61	IIA	3	0	0
MSS	male	50	I	2	0	0
MSS	male	75	IVA	3	0	1a
MSI	male	68	IVA	3	2b	1a
MSI	female	61	IIA	3	0	0
MSI	male	38	IIIB	3	1a	0
MSI	male	77	I	2	0	0
MSS	female	48	IIA	3	0	0
MSI	male	46	IIA	3	0	0
MSS	male	78	I	2	0	0
MSI	male	49	IIA	3	0	0
MSS	male	73	IIA	3	0	0
MSS	female	63	I	1	0	0
MSS	male	44	IVA	3	0	1a
MSI	female	76	IIA	3	0	0
MSS	male	37	IIIC	4a	2b	0
MSS	female	57	IIA	3	0	0
MSS	female	60	IIA	3	0	0

MSS	female	45	IVA	3	2b	1a
MSS	male	76	IIA	3	0	0
MSS	female	83	IIA	3	0	0
MSS	male	67	I	2	0	0
MSS	male	46	IIA	3	0	0
MSI	female	79	IIA	3	0	0
MSS	male	57	IVB	3	2a	1b
MSS	male	77	I	2	0	0
MSI	male	47	IVA	4a	0	1a
MSS	female	48	IVB	3	2b	1b
MSI	male	52	IIA	3	0	0
MSS	male	56	IIA	3	0	0
MSS	male	62	I	2	0	0
MSI	female	49	IIC	4b	0	0
MSI	male	50	IIA	3	0	0
MSS	male	75	IIA	3	0	0
MSI	male	52	IIA	3	0	0
MSI	male	60	IIA	3	0	0
MSS	female	83	IIIB	3	1b	0
MSS	male	58	IVA	3	1b	1a
MSS	male	72	IIA	3	0	0
MSS	female	67	IVB	1	0	1b
MSI	female	46	IIA	3	0	0
MSI	male	54	IIA	3	0	0
MSI	male	36	IIA	3	0	0
MSI	female	64	IIIB	3	1a	0
MSI	male	44	IIA	3	0	0
MSS	female	56	IVB	3	0	1b
MSI	female	37	IIA	3	0	0
MSI	male	51	IVA	3	0	1a
MSI	male	54	IIA	3	0	0
MSI	male	65	IIA	3	0	0
MSS	female	48	IVA	3	1a	1a
MSI	female	45	IIA	3	0	0
MSS	male	61	IVA	3	1c	1a
MSS	male	70	IIA	3	0	0
MSI	male	78	IIA	3	0	0
MSS	male	47	I	2	0	0
MSI	female	47	I	1	0	0
MSS	female	67	I	2	0	0
MSS	female	60	IIA	3	0	0
MSI	male	38	IIA	4a	0	0
MSI	male	52	IIA	3	0	0
MSS	female	70	IIA	3	0	0

MSI	male	61	IIA	3	0	0
MSS	female	72	I	2	0	0
MSS	female	82	IIB	4a	0	0
MSS	male	63	IIA	3	0	0
MSI	female	63	IIA	3	0	0
MSS	male	81	IVB	4b	2a	1b
MSS	male	70	IIA	3	0	0
MSI	female	71	IIA	3	0	0
MSS	male	56	IVA	3	2b	1a
MSS	female	83	IVA	3	0	1a
MSS	male	62	IVB	3	1b	1b
MSS	male	55	IVA	3	0	1a
MSI	female	49	IIA	3	0	0
MSI	male	58	IIA	3	0	0
MSI	male	28	IIA	3	0	0
MSI	male	53	IIA	3	0	0
MSI	male	49	IIIA	4b	0	0
MSS	male	61	IIA	3	0	0
MSI	male	61	IIA	3	0	0
MSS	female	64	I	2	0	0
MSI	female	62	IIA	3	0	0
MSS	male	60	I	2	0	0
MSI	male	79	IIA	3	0	0
MSS	male	68	IIA	3	0	0
MSI	male	69	IIA	3	0	0
MSI	female	60	IIA	3	0	0
MSI	male	62	IIA	3	0	0
MSI	male	56	IIA	3	0	0
MSI	female	53	IIA	3	0	0
MSS	male	74	IIA	3	0	0
MSS	male	45	IVA	4b	0	1a
MSI	male	71	IIA	3	0	0
MSI	female	64	IIA	3	0	0
MSI	male	31	IIA	3	0	0
MSS	female	79	IIIB	3	1c	0
MSI	male	62	IIA	3	0	0
MSI	male	70	IIIC	4b	2b	0
MSS	male	62	I	2	0	0
MSS	female	48	IIA	3	0	0
MSI	male	55	IIA	3	0	0
MSI	male	45	I	2	0	0
MSS	male	75	IIA	3	0	0
MSI	male	56	IIA	3	0	0
MSS	female	71	IIA	3	0	0

MSI	female	48	IVA	4	0	1
MSS	female	59	IIA	3	0	0
MSS	male	58	IIA	3	0	0
MSI	male	41	IIIB	3	2a	0
MSS	male	60	IIA	3	0	0
MSS	male	60	I	2	0	0
MSS	male	53	I	2	0	0
MSS	male	79	IIA	3	0	0
MSI	male	64	IIA	3	0	0
MSS	female	68	IIA	3	0	0
MSI	female	82	IIIB	3	1a	0
MSI	male	67	IIA	3	0	0
MSI	female	70	IIA	3	0	0
MSI	female	51	IIA	3	0	0
MSI	female	54	IIC	4b	0	0
MSS	female	77	IVB	3	1c	1b
MSI	female	82	IIA	3	0	0
MSS	female	63	IVB	3	2a	1b
MSS	male	76	IIA	3	0	0
MSI	male	75	IIA	3	0	0
MSS	male	51	IIA	3	0	0
MSS	male	59	IVB	4a	2b	1b
MSI	male	69	IIa	3	0	0
MSI	female	49	IIA	3	0	0
MSI	male	23	IIa	3	0	0
MSI	male	53	IIIB	3	2a	0
MSS	female	82	IIA	3	0	0
MSI	female	64	IIA	3	0	0
MSI	male	57	IIA	3	0	0
MSI	female	54	IIA	3	0	0
MSS	male	62	IVA	3	1b	1a
MSS	male	60	IVA	3	0	1a
MSS	male	62	IVA	3	1b	1a
MSS	female	71	IIA	3	0	0
MSS	female	60	I	2	0	0
MSI	female	60	IIA	3	0	0
MSS	male	53	IIA	3	0	0
MSI	male	43	IVA	3	2b	1a
MSI	female	81	IIA	3	0	0
MSS	male	59	IIA	3	0	0
MSS	male	79	IIA	3	0	0
MSI	female	47	IIIC	4b	2b	0
MSI	male	56	IIIB	3	1b	0
MSS	male	76	IIA	3	0	0

MSI	female	72	IIA	3	0	0
MSI	male	42	IIA	3	0	0
MSI	male	51	IIA	3	0	0
MSI	female	64	IIA	3	0	0
MSS	female	60	IIA	3	0	0
MSS	male	50	I	2	0	0
MSS	male	76	I	2	0	0
MSI	female	63	I	1	0	0
MSI	male	48	IIA	3	0	0
MSI	male	58	IIA	3	0	0
MSI	male	52	IIA	3	0	0
MSS	female	82	I	2	0	0
MSS	male	61	IIA	3	0	0
MSI	female	46	IIA	3	0	0
MSI	female	28	IIA	3	0	0
MSI	male	49	IIA	3	0	0
MSI	male	61	IIA	3	0	0
MSI	female	46	I	2	0	0
MSI	female	56	IIA	3	0	0
MSI	male	55	IIIB	3	2a	2
MSS	female	69	IVA	3	2a	1a
MSI	male	77	IIA	3	0	0
MSI	female	64	IIA	3	0	0
MSS	male	42 岁	I	2	0	0
MSS	female	73	I	2	0	0
MSI	male	38	IIA	3	0	0
MSI	female	75	IIA	3	0	0
MSS	female	49	IIa	3	0	0
MSS	male	51	IIA	3	0	0
MSS	male	73	IIA	3	0	0
MSI	female	48	I	2	0	0
MSI	male	56	IIA	3	0	0
MSI	male	35	IIA	3	0	0
MSI	male	51	IIA	3	0	0
MSI	female	25	I	2	0	0
MSI	female	41	IIA	3	0	0
MSS	male	62	I	2	0	0
MSS	male	49	IIA	3	0	0
MSI	male	67	IIA	3	0	0
MSI	male	63	IIA	3	0	0
MSS	female	49	IIA	3	0	0
MSI	female	73	IIA	3	0	0
MSI	female	57	IIA	3	0	0
MSS	male	61	I	1	0	0

MSI	male	45	IIA	3	0	0
MSS	male	51	IIA	3	0	0
MSS	male	63	IIA	3	0	0
MSI	male	37	I	1	0	0
MSS	male	49	I	1	0	0
MSS	male	61	IIA	3	0	0
MSI	male	59	IIA	3	0	0
MSI	male	49	I	2	0	0
MSS	male	29	IIA	3	0	0
MSI	male	73	IIA	3	0	0
MSI	female	50	IVA	3	2a	1a
MSI	female	73	IIA	3	0	0
MSI	female	53	IIA	3	0	0
MSS	female	65	IVA	4b	0	1a
MSI	male	64	IIA	3	0	0
MSS	male	56	IVA	3	2b	1a
MSI	male	44	IIA	3	0	0
MSS	female	61	IIA	3	0	0
MSS	male	61	IIA	3	0	0
MSS	male	50	I	2	0	0
MSI	male	59	IIA	3	0	0
MSS	female	69	IIA	3	0	0
MSS	male	70	IIIC	3	2b	0
MSS	male	54	IIA	3	0	0
MSS	female	62	IIa	3	0	0
MSI	male	29	IIa	3	0	0
MSI	male	55	IIa	3	0	0
MSI	female	30	IIIC	3	2b	0
MSI	female	65	I	2	0	0
MSS	male	65	IIa	3	0	0
MSS	male	45	IIIB	3	1b	0
MSI	male	62	IIA	3	0	0
MSI	male	50	IIa	3	0	0
MSI	male	56	IIa	3	0	0
MSI	female	61	IIa	3	0	0
MSI	female	73	IIIC	3	2	0
MSI	female	62	IIA	3	0	0
MSS	male	64	I	2	0	0
MSS	male	62	IVA	3	1b	1a
MSI	male	57	IIA	3	0	0
MSI	male	74	IIIB	3	1c	0
MSS	male	70	IIa	3	0	0
MSS	male	64	IIa	3	0	0
MSI	female	49	IIa	3	0	0

MSI	female	71	IIA	3	0	0
MSI	male	37	IIIb	3	1c	0
MSS	male	55	IIA	3	0	0
MSS	male	56	IIIB	3	1b	0
MSS	male	44	I	2	0	0
MSI	female	59	IIA	3	0	0
MSS	female	83	IIA	3	0	0
MSI	male	64	IIA	3	0	0
MSI	female	55	IIIA	3	0	0
MSI	male	49	IIIa	3	0	0
MSS	male	72	IIIB	3	2a	0
MSS	male	78	I	2	0	0
MSS	male	79	IIIB	3	2a	0
MSI	male	32	IIIB	3	1a	0
MSI	male	56	IVC	3	2a	1c
MSS	male	85	IIA	3	0	0
MSS	male	74	IIA	3	0	0
MSI	male	30	IIA	3	0	0
MSI	male	51	IIA	3	0	0
MSS	female	38	IIA	3	0	0
MSI	male	67	IIA	3	0	0
MSS	male	53	I	2	0	0
MSI	male	64	IIA	3	0	0
MSI	female	80	IVa	3	0	1a
MSS	male	51	IIA	3	0	0
MSI	male	39	I	2	0	0
MSS	male	80	IIA	3	0	0
MSS	female	50	IIA	3	0	0
MSI	male	69	IIA	3	0	0
MSI	male	57	IIIB	3	2a	0
MSI	female	38	IIA	3	0	0
MSI	female	54	IIA	3	0	0

Table S2: Comparison of the Existing Model AUCs for MSI Prediction

Author	AUC in the External Validation Set	Date
Jakob Nikolas Kather	0.84	2019 Jul
Rui Cao	0.85	2020 Sep
Rikiya Yamashita	0.78	2021 Jan
Sung Hak Lee	0.89	2021 Aug