

Supplementary Data 3. BUSCO results for various combinations of assemblers, Nanopore polishers, and/or Illumina polishers.

Assembler	Polisher (ONT reads)	Polisher (Illumina reads)	Rank	Complete, %	Complete	Frag- mented	Missing	Single- copy	Dupli- cated
Canu (contigs)	Medaka	Pilon + POLCA	25	99.46	3139	5	12	3094	45
Canu (unitigs)	Medaka	Pilon + POLCA	10	99.49	3140	5	11	3095	45
Flye	Medaka	Pilon + POLCA	25	99.46	3139	6	11	3094	45
Shasta	Medaka	Pilon + POLCA	10	99.49	3140	5	11	3091	49
wtdbg2	Medaka	Pilon + POLCA	25	99.46	3139	5	12	3096	43
Canu (contigs)	Medaka	Pilon-bt2	25	99.46	3139	5	12	3094	45
Canu (unitigs)	Medaka	Pilon-bt2	25	99.46	3139	5	12	3094	45
Flye	Medaka	Pilon-bt2	10	99.49	3140	6	10	3095	45
Shasta	Medaka	Pilon-bt2	39	99.43	3138	6	12	3089	49
wtdbg2	Medaka	Pilon-bt2	39	99.43	3138	5	13	3095	43
Canu (contigs)	Medaka	Pilon-BWA	39	99.43	3138	6	12	3093	45
Canu (unitigs)	Medaka	Pilon-BWA	39	99.43	3138	6	12	3093	45
Flye	Medaka	Pilon-BWA	39	99.43	3138	7	11	3093	45
Shasta	Medaka	Pilon-BWA	46	99.40	3137	7	12	3088	49
wtdbg2	Medaka	Pilon-BWA	39	99.43	3138	5	13	3095	43
Canu (contigs)	Medaka	POLCA	10	99.49	3140	5	11	3095	45
Canu (unitigs)	Medaka	POLCA	10	99.49	3140	5	11	3095	45
Flye	Medaka	POLCA	4	99.52	3141	6	9	3096	45
Shasta	Medaka	POLCA	10	99.49	3140	5	11	3091	49
wtdbg2	Medaka	POLCA	25	99.46	3139	5	12	3096	43
Canu (contigs)	Medaka	POLCA X2	25	99.46	3139	5	12	3094	45
Canu (unitigs)	Medaka	POLCA X2	25	99.46	3139	5	12	3094	45

Flye	Medaka	POLCA X2	4	99.52	3141	6	9	3096	45
Shasta	Medaka	POLCA X2	10	99.49	3140	5	11	3091	49
wtdbg2	Medaka	POLCA X2	25	99.46	3139	5	12	3096	43
Canu (contigs)	Medaka		62	98.67	3114	18	24	3069	45
Canu (unitigs)	Medaka		60	98.70	3115	19	22	3070	45
Flye	Medaka		60	98.70	3115	21	20	3069	46
Shasta	Medaka		64	97.66	3082	32	42	3035	47
wtdbg2	Medaka		63	98.42	3106	24	26	3064	42
Canu (contigs)	Racon		83	93.44	2949	109	98	2912	37
Canu (unitigs)	Racon		71	93.60	2954	108	94	2918	36
Flye	Racon		85	93.22	2942	115	99	2907	35
Shasta	Racon		69	93.63	2955	104	97	2914	41
wtdbg2	Racon		84	93.38	2947	110	99	2910	37
Canu (contigs)	Racon X2	Pilon + POLCA	10	99.49	3140	5	11	3095	45
Canu (unitigs)	Racon X2	Pilon + POLCA	10	99.49	3140	5	11	3095	45
Flye	Racon X2	Pilon + POLCA	10	99.49	3140	6	10	3096	44
Shasta	Racon X2	Pilon + POLCA	4	99.52	3141	5	10	3093	48
wtdbg2	Racon X2	Pilon + POLCA	25	99.46	3139	5	12	3097	42
Canu (contigs)	Racon X2	Pilon-bt2	52	99.33	3135	10	11	3090	45
Canu (unitigs)	Racon X2	Pilon-bt2	52	99.33	3135	10	11	3090	45
Flye	Racon X2	Pilon-bt2	49	99.37	3136	10	10	3092	44
Shasta	Racon X2	Pilon-bt2	49	99.37	3136	9	11	3089	47
wtdbg2	Racon X2	Pilon-bt2	54	99.30	3134	8	14	3092	42
Canu (contigs)	Racon X2	Pilon-BWA	58	99.14	3129	12	15	3086	43
Canu (unitigs)	Racon X2	Pilon-BWA	57	99.18	3130	12	14	3086	44
Flye	Racon X2	Pilon-BWA	55	99.24	3132	12	12	3089	43
Shasta	Racon X2	Pilon-BWA	56	99.21	3131	12	13	3085	46

wtdbg2	Racon X2	Pilon-BWA	59	99.11	3128	11	17	3087	41
Canu (contigs)	Racon X2	POLCA	4	99.52	3141	5	10	3097	44
Canu (unitigs)	Racon X2	POLCA	25	99.46	3139	5	12	3095	44
Flye	Racon X2	POLCA	10	99.49	3140	6	10	3096	44
Shasta	Racon X2	POLCA	4	99.52	3141	5	10	3092	49
wtdbg2	Racon X2	POLCA	46	99.40	3137	5	14	3095	42
Canu (contigs)	Racon X2	POLCA X2	10	99.49	3140	5	11	3096	44
Canu (unitigs)	Racon X2	POLCA X2	25	99.46	3139	5	12	3095	44
Flye	Racon X2	POLCA X2	1	99.56	3142	6	8	3098	44
Shasta	Racon X2	POLCA X2	4	99.52	3141	5	10	3092	49
wtdbg2	Racon X2	POLCA X2	39	99.43	3138	5	13	3095	43
Canu (contigs)	Racon X2		68	93.66	2956	103	97	2916	40
Canu (unitigs)	Racon X2		78	93.50	2951	111	94	2912	39
Flye	Racon X2		71	93.60	2954	113	89	2920	34
Shasta	Racon X2		71	93.60	2954	100	102	2913	41
wtdbg2	Racon X2		75	93.57	2953	106	97	2919	34
Canu (contigs)	Racon X3		71	93.60	2954	105	97	2914	40
Canu (unitigs)	Racon X3		66	93.76	2959	108	89	2922	37
Flye	Racon X3		78	93.50	2951	118	87	2916	35
Shasta	Racon X3		67	93.73	2958	102	96	2915	43
wtdbg2	Racon X3		78	93.50	2951	109	96	2918	33
Canu (contigs)	Racon X4		78	93.50	2951	113	92	2915	36
Canu (unitigs)	Racon X4		82	93.47	2950	110	96	2912	38
Flye	Racon X4		69	93.63	2955	108	93	2921	34
Shasta	Racon X4		75	93.57	2953	108	95	2910	43
wtdbg2	Racon X4		75	93.57	2953	110	93	2918	35
Canu (contigs)		POLCA X2	10	99.49	3140	5	11	3097	43

Canu (unitigs)		POLCA X2	25	99.46	3139	5	12	3096	43
Flye		POLCA X2	10	99.49	3140	6	10	3095	45
MaSuRCa-CA		POLCA X2	1	99.56	3142	5	9	3083	59
MaSuRCa-Flye		POLCA X2	25	99.46	3139	6	11	3095	44
Shasta		POLCA X2	49	99.37	3136	9	11	3090	46
wtdbg2		POLCA X2	46	99.40	3137	6	13	3094	43
Canu (contigs)			88	88.66	2798	201	157	2764	34
Canu (unitigs)			87	88.69	2799	201	156	2765	34
Flye			65	93.92	2964	98	94	2927	37
MaSuRCa-CA			1	99.56	3142	5	9	3083	59
MaSuRCa-Flye			10	99.49	3140	6	10	3096	44
Shasta			86	91.10	2875	152	129	2839	36
wtdbg2			89	80.26	2533	327	296	2505	28

Note: Rank – place in the overall ranking according to the number of complete (single-copy + duplicated) BUSCOs; ONT – Oxford Nanopore Technologies; bt2 – bowtie2; X2, X3, X4 – number of iterations; MaSuRCA-CA – MaSuRCA coupled with Celera Assembler; MaSuRCA-Flye – MaSuRCA coupled with Flye. Green – the best results, red – the worst results, yellow – average results.