

**Supplementary Table 1. The estimated annual drug costs of CML treatment by other investigators.**

Reference	Strategy	Annual cost (USD)
Shih et al. <sup>23*</sup>	Imatinib	35,000
	Second-TKIs	152,814
Padula et al. <sup>8†</sup>	Imatinib	45,875
	Dasatinib	92,117
	Nilotinib	87,445

\*The cost of TKIs were extracted from 2018 wholesale acquisition cost in the RED BOOK. The cost of imatinib was the calculated from average of the cost of nine generic compounds available in the US. The cost of branded nilotinib was used as the cost of second-TKIs.

†The costs were extracted from 2011-2012 MarketScan data.

**Supplementary Table 2. The analysis using the costs estimated by other investigators.**

Strategy	Cost (USD)	QALY	ICER	Cost saved by 'stop TKI'
Analysis based on the costs by Shih <i>et al.</i> <sup>23</sup>				
Without 'stop TKI'				
Imatinib first	501,757	7.26		
Physician's choice	1,020,186	7.44	2,846,324	
Nilotinib first	1,271,436	7.50	3,216,872	
Dasatinib first	1,287,834	7.57	2,559,212	
With 'stop TKI' at MR4.5 for 2 years				
Imatinib first	475,441	7.34		26,316
Physician's choice	880,125	7.55	1,851,980	140,060
Nilotinib first	1,054,559	7.64	1,886,275	216,877
Dasatinib first	1,110,790	7.68	1,822,959	177,043
With 'stop TKI' at MR4.0 for 2 years				
Imatinib first	468,684	7.36		33,073
Physician's choice	835,842	7.60	1,560,287	184,344
Nilotinib first	996,909	7.69	1,611,465	274,527
Dasatinib first	1,042,477	7.74	1,517,367	245,357
Analysis based on the cost by Padula <i>et al.</i> <sup>8</sup>				
Without 'stop TKI'				
Imatinib first	458,407	7.26		
Physician's choice	656,980	7.44	1,090,222	
Nilotinib first	737,060	7.50	1,164,631	
Dasatinib first	775,472	7.57	1,032,260	
With 'stop TKI' at MR4.5 for 2 years				
Imatinib first	442,103	7.34		16,304
Physician's choice	595,098	7.55	700,158	61,882
Nilotinib first	646,741	7.64	666,535	90,319
Dasatinib first	696,449	7.68	729,776	79,022
With 'stop TKI' at MR4.0 for 2 years				
Imatinib first	437,849	7.36		20,558
Physician's choice	575,520	7.60	585,055	81,460
Nilotinib first	622,740	7.69	564,051	114,320
Dasatinib first	665,972	7.74	603,262	109,500

**Supplementary figure 1. The two-way sensitivity analysis of the US model with 20-year simulation allowing 'stop TKI' at one-year of MR4.0.**

The colored area indicates the range in which the strategy dominates others. Lines indicate the base-case values. (A) The probabilities of successful 'stop TKI' with dasatinib and nilotinib are varied. The probability of 'stop TKI' with imatinib is fixed at 0.38. (B) the probabilities of achieving CCyR at 12 months dasatinib and nilotinib are varied. The probability of CCyR at 12 months with imatinib is fixed at 0.70.

