

**Quality Values Chart**

**Quality Value =  $-10\log_{10}(P_e)$**   
 Pe is probability of error  
 KB basecaller generates QVs from 1 to 99  
 Typical high quality pure bases will have QV 20- 50  
 Typical high quality mixed bases will have QV 10-50  
 Size and color of QVs bars are identical for QVs 50-99

QV	Pe	QV	Pe	QV	Pe
1	79%	21	0.790%	41	0.0079%
2	63%	22	0.630%	42	0.0063%
3	50%	23	0.500%	43	0.0050%
4	39%	24	0.390%	44	0.0039%
5	31%	25	0.310%	45	0.0031%
6	25%	26	0.250%	46	0.0025%
7	20%	27	0.200%	47	0.0020%
8	15%	28	0.150%	48	0.0015%
9	12%	29	0.120%	49	0.0012%
10	10%	30	0.100%	50	0.0010%
11	7.9%	31	0.079%	60	0.0001%
12	6.3%	32	0.063%	70	0.00001%
13	5.0%	33	0.050%	80	0.000001%
14	4.0%	34	0.040%	90	0.0000001%
15	3.2%	35	0.032%	99	0.00000012%
16	2.5%	36	0.025%		
17	2.0%	37	0.020%		
18	1.6%	38	0.016%		
19	1.3%	39	0.013%		
20	1.0%	40	0.010%		

More information available in Chapter 6 of Sequencing Analysis User Guide and Chapter 10 of SeqScape User Guide

Reference: Applied Biosystems Sequencing Analysis 5.2.0