bTag cut	Q value
sample	ttH vs QCD
S1 loose	1.09740 pm 0.001393360 @ m = 1.1
S2 loose	1.23062 pm 0.001768200 @ m = 1.3
S3 loose	1.00496 pm 0.000969805 @ m = 1.1
S1 medium	1.01928 pm 0.001989810 @ m = 1.1
S2 medium	1.01400 pm 0.001897420 @ m = 1.1
S3 medium	1.00702 pm 0.001318420 @ m = 1.1
S1 tight	1.09833 pm 0.002900220 @ m = 1.1
S2 tight	1.00540 pm 0.002183480 @ m = 1.1
S3 tight	1.00544 pm 0.001522450 @ m = 1.1
sample	ttH vs EXTRA_QCD
sum tag mass S1 loose	11.142 ± 0.048 @ $m = 11.2$
sum tag mass S2 loose	9.172 ± 0.034 @ $m = 9.2$
sum tag mass S3 loose	5.0522 ± 0.0057 @ $m = 5.1$
sum tag mass S1 medium	7.335 ± 0.019 @ $m = 7.4$
sum tag mass S2 medium	4.3211 ± 0.0053 @ $m = 4.4$
sum tag mass S3 medium	3.9140 ± 0.0033 @ $m = 4.0$
sum tag mass S1 tight	8.251 ± 0.027 @ $m = 8.3$
sum tag mass S2 tight	3.3300 ± 0.0032 @ $m = 3.4$
sum tag mass S3 tight	2.5610 ± 0.0018 @ $m = 2.6$
sample	ttH vs W+jets
S1 loose	1.03953 pm 0.0102983 @ m = 1.1
S2 loose	1.17399 pm 0.0192180 @ m = 1.2
S3 loose	1.07266 pm 0.0235375 @ m = 1.1
S1 medium	1.00871 pm 0.0130681 @ m = 1.1
S2 medium	1.02087 pm 0.0194994 @ m = 1.1
S3 medium	1.01189 pm 0.0238238 @ m = 1.1
S1 tight	1.06119 pm 0.0207839 @ m = 1.1
S2 tight	1.01314 pm 0.0203375 @ m = 1.1
S3 tight	1.00526 pm 0.0242086 @ m = 1.1
sample	ttH vs tt+jets
S1 loose	1.00871 pm 0.0127856 @ m = 1.1
S2 loose	1.01661 pm 0.0219112 @ m = 1.1
S3 loose	1.00131 pm 0.0200530 @ m = 1.1
S1 medium	1.04590 pm 0.0208985 @ m = 1.1
S2 medium	1.05506 pm 0.0331768 @ m = 1.1
S3 medium	1.01370 pm 0.0297526 @ m = 1.1
S1 tight	1.19124 pm 0.0403303 @ m = 1.2
S2 tight	1.06224 pm 0.0385982 @ m = 1.1
S3 tight	1.01125 pm 0.0338302 @ m = 1.1
sample	ttH vs single t (e)
S1 loose	1.98689 pm 0.06019550 @ m = 2.0
S2 loose	3.10586 pm 0.18572500 @ m = 3.2
S3 loose	1.49631 pm 0.00165335 @ m = 1.5
S1 medium	1.36327 pm 0.04386650 @ m = 1.4
S2 medium	1.21644 pm 0.05363660 @ m = 1.3
S3 medium	1.69522 pm 0.07206490 @ m = 1.7
S1 tight	1.18328 pm 0.06680530 @ m = 1.2
S2 tight	1.00690 pm 0.04796110 @ m = 1.1