

Data set	m_T	σ	Q_H	T_H	R_H	S_H
t̄t+jets	—	—	140 ± 20	230 ± 30	16.8 ± 3.8	21.7 ± 4.8
Other background	—	—	21.7 ± 9.6	20.5 ± 7.0	7.4 ± 4.4	3.0 ± 1.6
QCD multijet	—	—	478 ± 42	91 ± 35	125 ± 12	28.4 ± 9.1
Total background	—	—	640 ± 28	342 ± 23	149 ± 12	53.1 ± 7.7
Data	—	—	640	345	151	52
tHbq	1.2	142	6.80 ± 0.30	10.71 ± 0.41	11.6 ± 0.42	$20.6 \pm 0.6 \text{ (0.40)}$
tZbq	1.2	131	1.56 ± 0.15	1.18 ± 0.13	0.49 ± 0.08	$0.73 \pm 0.11 \text{ (0.02)}$
tHtq	1.2	40.7	2.32 ± 0.10	3.70 ± 0.13	3.21 ± 0.12	$5.63 \pm 0.16 \text{ (0.39)}$
tZtq	1.2	32.9	0.47 ± 0.03	0.49 ± 0.03	0.13 ± 0.01	$0.14 \pm 0.02 \text{ (0.01)}$
tHbq	1.8	13.6	1.08 ± 0.04	1.54 ± 0.05	1.83 ± 0.05	$2.83 \pm 0.07 \text{ (0.58)}$
tZbq	1.8	11.0	0.12 ± 0.01	0.13 ± 0.01	0.08 ± 0.01	$0.07 \pm 0.01 \text{ (0.02)}$
tHtq	1.8	4.0	0.33 ± 0.01	0.49 ± 0.01	0.50 ± 0.01	$0.76 \pm 0.02 \text{ (0.53)}$
tZtq	1.8	3.2	0.11 ± 0.01	0.11 ± 0.01	0.03 ± 0.01	$0.04 \pm 0.01 \text{ (0.03)}$