

Process	$2\ell SS + 0\tau_h$	$3\ell + 0\tau_h$	$2\ell SS + 1\tau_h$
$t\bar{t}H$	222 ± 51	61 ± 15	28.9 ± 6.4
tH	119 ± 85	20 ± 14	12.7 ± 9.0
$t\bar{t}Z + t\bar{t}\gamma^*$	322 ± 25	145 ± 11	29.6 ± 3.3
$t\bar{t}W + t\bar{t}WW$	1153 ± 64	171.1 ± 9.5	47.4 ± 6.5
WZ	296 ± 31	89.7 ± 9.7	19.4 ± 2.9
ZZ	31.2 ± 3.3	16.2 ± 1.6	1.6 ± 0.3
Misidentified leptons	1217 ± 91	140 ± 11	52.0 ± 9.6
Flips	121 ± 19	—	—
Rare backgrounds	222 ± 48	41.0 ± 8.9	13.3 ± 3.1
Conversion	42 ± 12	5.6 ± 1.6	—
$ggH + qqH + VH + t\bar{t}VH$	35.3 ± 4.0	3.4 ± 0.3	1.8 ± 0.3
Total expected background	3517 ± 85	627 ± 20	179 ± 13
Data	3738	744	201

Process	$1\ell + 1\tau_h$	$0\ell + 2\tau_h$	$2\ell OS + 1\tau_h$	$1\ell + 2\tau_h$
$t\bar{t}H$	183 ± 41	24.4 ± 6.0	19.1 ± 4.3	19.3 ± 4.2
tH	65 ± 46	16 ± 12	4.8 ± 3.4	2.6 ± 1.9
$t\bar{t}Z + t\bar{t}\gamma^*$	203 ± 24	27.1 ± 3.8	25.5 ± 2.9	20.3 ± 2.1
$t\bar{t}W + t\bar{t}WW$	254 ± 34	3.8 ± 0.5	17.4 ± 2.4	2.6 ± 0.4
WZ	198 ± 37	42.5 ± 8.7	8.4 ± 1.6	11.8 ± 2.2
ZZ	98 ± 13	34.2 ± 4.8	1.9 ± 0.3	1.8 ± 0.3
DY	4480 ± 460	1430.0 ± 220	519 ± 28	250 ± 16
$t\bar{t}$ +jets	41900 ± 1900	861 ± 98	—	—
Misidentified leptons	25300 ± 1900	3790 ± 220	—	—
Rare backgrounds	1930 ± 420	60 ± 14	5.9 ± 1.3	5.6 ± 1.3
Conversion	—	—	0.5 ± 0.2	—
$ggH + qqH + VH + t\bar{t}VH$	38.5 ± 3.6	26.7 ± 3.6	0.8 ± 0.1	—
Total expected background	73550 ± 610	6290 ± 130	584 ± 27	295 ± 16
Data	73736	6310	603	307

Process	$4\ell + 0\tau_h$	$3\ell + 1\tau_h$	$2\ell + 2\tau_h$
$t\bar{t}H$	2.0 ± 0.5	4.0 ± 0.9	2.2 ± 0.5
tH	0.2 ± 0.2	0.8 ± 0.6	0.3 ± 0.2
$t\bar{t}Z + t\bar{t}\gamma^*$	5.9 ± 0.4	6.6 ± 0.7	2.5 ± 0.3
$t\bar{t}W + t\bar{t}WW$	0.2 ± 0.0	1.1 ± 0.2	—
ZZ	0.6 ± 0.2	0.3 ± 0.1	0.2 ± 0.0
Misidentified leptons	—	1.5 ± 0.9	3.4 ± 0.9
Rare backgrounds	0.6 ± 0.1	1.0 ± 0.3	0.3 ± 0.1
Conversion	—	—	—
Total expected background	7.4 ± 0.5	11.5 ± 1.3	6.8 ± 1.0
Data	12	18	3