

Event category	Signal	Background	Data	$\frac{S}{S+B}$
$\ell\ell + LL'$				
$\mu\mu + \mu\tau_h$ 7 TeV	$0.111 \pm 0.005$	$2.4 \pm 0.3$	2	0.103
$\mu\mu + \mu\tau_h$ 8 TeV	$0.427 \pm 0.021$	$10.5 \pm 0.6$	12	0.092
$ee + \mu\tau_h$ 7 TeV	$0.087 \pm 0.004$	$1.5 \pm 0.1$	2	0.135
$ee + \mu\tau_h$ 8 TeV	$0.385 \pm 0.018$	$7.6 \pm 0.4$	11	0.149
$\mu\mu + e\tau_h$ 7 TeV	$0.078 \pm 0.004$	$2.2 \pm 0.1$	1	0.092
$\mu\mu + e\tau_h$ 8 TeV	$0.293 \pm 0.014$	$12.2 \pm 0.6$	8	0.081
$ee + e\tau_h$ 7 TeV	$0.075 \pm 0.004$	$2.2 \pm 0.1$	4	0.077
$ee + e\tau_h$ 8 TeV	$0.279 \pm 0.013$	$10.2 \pm 0.5$	13	0.063
$\mu\mu + \tau_h\tau_h$ 7 TeV	$0.073 \pm 0.006$	$0.8 \pm 0.1$	0	0.195
$\mu\mu + \tau_h\tau_h$ 8 TeV	$0.285 \pm 0.022$	$5.8 \pm 0.4$	4	0.150
$ee + \tau_h\tau_h$ 7 TeV	$0.061 \pm 0.004$	$1.1 \pm 0.1$	1	0.127
$ee + \tau_h\tau_h$ 8 TeV	$0.260 \pm 0.020$	$4.8 \pm 0.4$	9	0.148
$\mu\mu + e\mu$ 7 TeV	$0.051 \pm 0.002$	$1.0 \pm 0.1$	3	0.100
$\mu\mu + e\mu$ 8 TeV	$0.202 \pm 0.008$	$5.1 \pm 0.3$	9	0.105
$ee + e\mu$ 7 TeV	$0.045 \pm 0.002$	$1.0 \pm 0.0$	1	0.077
$ee + e\mu$ 8 TeV	$0.185 \pm 0.007$	$4.0 \pm 0.2$	4	0.082
$\ell + \tau_h\tau_h$				
$\mu + \tau_h\tau_h$ 7 TeV	$0.35 \pm 0.03$	$4.1 \pm 0.4$	2	0.098
$\mu + \tau_h\tau_h$ 8 TeV	$1.57 \pm 0.12$	$35.2 \pm 2.1$	38	0.054
$e + \tau_h\tau_h$ 7 TeV	$0.23 \pm 0.02$	$2.7 \pm 0.2$	0	0.101
$e + \tau_h\tau_h$ 8 TeV	$0.87 \pm 0.08$	$16.5 \pm 1.1$	15	0.062
$\ell + \ell'\tau_h$				
$\mu + \mu\tau_h$ 7 TeV	$0.33 \pm 0.02$	$3.2 \pm 0.4$	2	0.090
$\mu + \mu\tau_h$ low $L_T$ 8 TeV	$0.72 \pm 0.03$	$20.7 \pm 2.2$	19	0.046
$\mu + \mu\tau_h$ high $L_T$ 8 TeV	$0.72 \pm 0.02$	$8.4 \pm 1.3$	7	0.102
$e + \mu\tau_h/\mu + e\tau_h$ 7 TeV	$0.47 \pm 0.03$	$6.2 \pm 1.0$	6	0.074
$e + \mu\tau_h/\mu + e\tau_h$ low $L_T$ 8 TeV	$0.92 \pm 0.03$	$24.6 \pm 3.2$	30	0.041
$e + \mu\tau_h/\mu + e\tau_h$ high $L_T$ 8 TeV	$1.15 \pm 0.04$	$13.9 \pm 2.0$	11	0.109