

Data and $W \rightarrow \ell\nu$ simulation		Signal simulation	
Object	Selection	Object	Selection
≥ 1 HLT muon	$p_{\text{T}} > 24 \text{ GeV}$	≥ 1 track	$ \eta < 2.5$
	passing isolation		passing high purity ID
≥ 1 muon	$p_{\text{T}} > 55 \text{ GeV}$		$d_0 < 0.02 \text{ cm}$
	$ \eta < 2.1$		$d_z < 0.5 \text{ cm}$
	passing tight muon ID		hits ≥ 4
	$I < 0.15$		missing inner hits = 0
	missing inner hits = 0		missing middle hits = 0
	missing middle hits = 0		$I < 0.01$
	match HLT muon ($\Delta R < 0.1$)		