

Channel	Trigger	Offline $p_T$	Offline $ \eta $	Signature and object ID
$ee\gamma$	Dielectron with 17(8) GeV	$E_T^{e1} > 35 \text{ GeV}$ , $E_T^{e2} > 35 \text{ GeV}$ , $E_T^\gamma > 35 \text{ GeV}$	$ \eta_e  < 1.44$ , $1.56 <  \eta_e  < 2.5$ , $ \eta_\gamma  < 1.44$	Two isolated high $E_T$ electrons and one isolated high $E_T$ photon
$\mu\mu\gamma$	Dimuon with 17(8) GeV	$p_T^{\mu1} > 35 \text{ GeV}$ , $p_T^{\mu2} > 35 \text{ GeV}$ , $E_T^\gamma > 35 \text{ GeV}$	$ \eta_\mu  < 2.1$ , $ \eta_\gamma  < 1.44$	Two isolated high $p_T$ muons and one isolated high $E_T$ photon
2e2j	Dielectron with 17(8) GeV	$E_T^{e1} > 35 \text{ GeV}$ , $E_T^{e2} > 35 \text{ GeV}$ , $E_T^j > 200 \text{ GeV}$	$ \eta_e  < 1.44$ , $1.56 <  \eta_e  < 2.5$ , $ \eta_j  < 2.4$	Two isolated high $E_T$ electrons and two jets that are merged from boosted Z boson decays
2 $\mu$ 2j	Dimuon with 17(8) GeV	$p_T^{\mu1} > 35 \text{ GeV}$ , $p_T^{\mu1} > 35 \text{ GeV}$ , $E_T^j > 200 \text{ GeV}$	$ \eta_\mu  < 2.4$ , $ \eta_j  < 2.4$	Two isolated high $p_T$ muons and two jets that are merged from boosted Z boson decays
4e	Dielectron with 17(8) GeV	$E_T^e > 25 \text{ GeV}$ for all four electrons	$ \eta_e  < 1.44$ , $1.56 <  \eta_e  < 2.5$	Two isolated high $E_T$ electrons and two nearby high $E_T$ electrons from boosted Z boson decay, using modified isolation for Z boson decay electrons
2e2 $\mu$	Muon-Photon with 22 GeV each	$p_T > 25 \text{ GeV}$ for all four leptons	$ \eta_e  < 1.44$ , $1.56 <  \eta_e  < 2.5$ , $ \eta_\mu  < 2.4$	Two isolated high $E_T$ electrons and two nearby high $p_T$ muons from boosted Z boson decay, using modified ID for one Z boson decay muon and modified isolation for both Z boson decay muons
2 $\mu$ 2e	Muon-Photon with 22 GeV each	$p_T > 25 \text{ GeV}$ for all four leptons	$ \eta_e  < 1.44$ , $1.56 <  \eta_e  < 2.5$ , $ \eta_\mu  < 2.4$	Two isolated high $p_T$ muons and two nearby high $E_T$ electrons from boosted Z boson decay, using modified isolation for both Z boson decay muons
4 $\mu$	Dimuon with 17(8) GeV	$p_T^\mu > 25 \text{ GeV}$ for all four muons	$ \eta_\mu  < 2.4$	Two isolated high $p_T$ muons plus two nearby high $p_T$ muons from boosted Z boson decay, using modified ID for one and modified isolation for both muons from Z boson decay