

Event category	Leptons	$m_{\ell\ell}$	b tags	Lepton charge sum	Jets	Kinematical variable
$2\ell$ ss 2b	2	No requirement	2	$>0, <0$	4, 5, 6, $\geq 7$	$p_T(\ell j)_{\max}$
$2\ell$ ss 3b	2	No requirement	$\geq 3$	$>0, <0$	4, 5, 6, $\geq 7$	$p_T(\ell j)_{\max}$
$3\ell$ off-Z 1b	3	$ m_Z - m_{\ell\ell}  > 10 \text{ GeV}$	1	$>0, <0$	2, 3, 4, $\geq 5$	$p_T(\ell j)_{\max}$
$3\ell$ off-Z 2b	3	$ m_Z - m_{\ell\ell}  > 10 \text{ GeV}$	$\geq 2$	$>0, <0$	2, 3, 4, $\geq 5$	$p_T(\ell j)_{\max}$
$3\ell$ on-Z 1b	3	$ m_Z - m_{\ell\ell}  < 10 \text{ GeV}$	1	No requirement	2, 3, 4, $\geq 5$	$p_T(Z)$
$3\ell$ on-Z 2b	3	$ m_Z - m_{\ell\ell}  < 10 \text{ GeV}$	$\geq 2$	No requirement	2, 3, 4, $\geq 5$	$p_T(Z)$ or $p_T(\ell j)_{\max}$
$4\ell$	$\geq 4$	No requirement	$\geq 2$	No requirement	2, 3, $\geq 4$	$p_T(\ell j)_{\max}$