

CC search: Definition of signal regions (SR) and their corresponding control regions (CR). The sub-regions of signal regions are denoted by tags in parentheses described in the text. For jets, the attributes “soft” and “hard” refer to the  $p_T$  ranges 30–60 GeV and  $> 60$  GeV, respectively.

Variable	Common to all SRs					
Number of hard jets	$\leq 2$					
$\Delta\phi(\text{hard jets})$ (rad)	$< 2.5$					
$E_T^{\text{miss}}$ (GeV)	$> 300$					
Lepton rejection	no $\tau$ , or additional $\ell$ with $p_T > 20$ GeV					
	SR1			SR2		
$H_T$ (GeV)	$> 400$			$> 300$		
$p_T(\text{ISR jet})$ (GeV)	$> 100$			$> 325$		
Number of b jets	0			$\geq 1$ soft, 0 hard		
$ \eta(\ell) $	$< 1.5$			$< 2.4$		
	SR1a	SR1b	SR1c	SR2a	SR2b	SR2c
$M_T$ (GeV)	$< 60$	60–95	$> 95$	$< 60$	60–95	$> 95$
$Q(\ell)$	–1	–1	any	any	any	any
$p_T(\mu)$ (GeV)	3.5–5 (VL)	3.5–5 (VL)	-	3.5–5 (VL)	3.5–5 (VL)	-
$p_T(e, \mu)$ (GeV)	5–12 (L)	5–12 (L)	5–12 (L)	5–12 (L)	5–12 (L)	5–12 (L)
	12–20 (M)	12–20 (M)	12–20 (M)	12–20 (M)	12–20 (M)	12–20 (M)
	20–30 (H)	20–30 (H)	20–30 (H)	20–30 (H)	20–30 (H)	20–30 (H)
	$> 30$ (CR)	$> 30$ (CR)	$> 30$ (CR)	$> 30$ (CR)	$> 30$ (CR)	$> 30$ (CR)
$C_T$ (GeV)	$300 < C_{T1} < 400$ (X) $C_{T1} > 400$ (Y)			$300 < C_{T2} < 400$ (X) $C_{T2} > 400$ (Y)		