

## Data

cutflow	The number of events (Single trigger)	The number of events (Compound trigger)
Trigger	202639180	76850212
Jet cleaning	202302890	76743740
Njets $\geq 2$	193205510	75005508
NPhotons $\geq 1$	44098255	37211972
Photon pT cut	11575203	22090737
Jet1 pT cut	11575203	20837871
Jet2 pT cut	11575203	13013218
$y^* < 0.75$	7369609	8031090
2 b-tagged	52313	61987
mjj	2522549	1520114
2 b-tagged && mjj	15557	9015

## MC background (1 ipb)

cutflow	The number of events (Single trigger)	The number of events (Compound trigger)
Total	$38341.526 \pm 5.581$	$38353.553 \pm 5.647$
Trigger	$233.148197 \pm 0.1222852828$	$310.1298617 \pm 0.2197938513$
Jet cleaning	$232.9436357 \pm 0.1222320395$	$309.8153068 \pm 0.2196688426$
Njets $\geq 2$	$174.2833212 \pm 0.107884725$	$297.1421696 \pm 0.2105927034$
NPhotons $\geq 1$	$135.0081085 \pm 0.09090703513$	$255.0768565 \pm 0.1910235762$
Photon pT cut	$98.20166368 \pm 0.04848224827$	$176.5869026 \pm 0.1288162505$
Jet1 pT cut	$98.20166368 \pm 0.04848224827$	$166.0112429 \pm 0.1240634007$

Jet2 pT cut	98.20166368 $\pm$ 0.04848224827	102.3478411 $\pm$ 0.09840023749
$y^* < 0.75$	59.95544201 $\pm$ 0.03528299297	60.28954121 $\pm$ 0.07355563953
2 b-tagged	0.3441534227 $\pm$ 0.002955231572	0.3724795803 $\pm$ 0.005743611347
mjj	19.74084974 $\pm$ 0.01651717825	11.14898803 $\pm$ 0.03136295907
2 b-tagged && mjj	0.1060304854 $\pm$ 0.001897091412	0.0566089605 $\pm$ 0.002560155044

MC16a signal 250 GeV,  $g_q=0.2$  (1 ipb)

cutflow	The number of events (Single trigger)	The number of events (Compound trigger)
Trigger	0.2227738947 $\pm$ 0.002378891849	0.3225336671 $\pm$ 0.002862593383
Jet cleaning	0.2226215601 $\pm$ 0.002378077949	0.3222797513 $\pm$ 0.002861466067
Njets $\geq 2$	0.2070571035 $\pm$ 0.002293402851	0.3134438097 $\pm$ 0.002821954958
NPhotons $\geq 1$	0.1767018139 $\pm$ 0.002118627905	0.2896020412 $\pm$ 0.002712472974
Photon pT cut	0.143842116 $\pm$ 0.001912638448	0.2841693163 $\pm$ 0.002688855494
Jet1 pT cut	0.143842116 $\pm$ 0.001912638448	0.2801482677 $\pm$ 0.002669758692
Jet2 pT cut	0.143842116 $\pm$ 0.001912638448	0.2192705125 $\pm$ 0.002361959073
$y^* < 0.75$	0.1083968133 $\pm$ 0.001660392653	0.1773473918 $\pm$ 0.002124242107
2 b-tagged	0.008037619293 $\pm$ 0.0004401507252	0.01351407357 $\pm$ 0.0005726609449

mjj	0.08154225453 $\pm$ 0.001440136677	0.005827199309 $\pm$ 0.000385073748
2 b-tagged && mjj	0.007012449449 $\pm$ 0.0004106801299	0.00004786923455 $\pm$ 0.00003384876926

MC16a signal 550 GeV, g<sub>q</sub>=0.2 (1 ipb)

cutflow	The number of events (Single trigger)	The number of events (Compound trigger)
Trigger	0.06822236627 $\pm$ 0.0006523153149	0.1010955349 $\pm$ 0.0007940718216
Jet cleaning	0.06817246228 $\pm$ 0.0006520766994	0.1010082066 $\pm$ 0.0007937287782
Njets $\geq$ 2	0.06636349857 $\pm$ 0.0006433671367	0.09974817187 $\pm$ 0.0007887625466
NPhotons $\geq$ 1	0.05632065609 $\pm$ 0.0005926909493	0.0908780247 $\pm$ 0.000752875805
Photon pT cut	0.04647777975 $\pm$ 0.0005387338863	0.08859505504 $\pm$ 0.0007439329981
Jet1 pT cut	0.04647777975 $\pm$ 0.0005387338863	0.08842027187 $\pm$ 0.0007431990884
Jet2 pT cut	0.04647777975 $\pm$ 0.0005387338863	0.08380419016 $\pm$ 0.0007235392833
y* < 0.75	0.03154822811 $\pm$ 0.0004438588811	0.05850090832 $\pm$ 0.00060452125
2 b-tagged	0.002461771481 $\pm$ 0.0001196913899	0.004952708725 $\pm$ 0.0001697993784
mjj	0.02918813791 $\pm$ 0.0004269373761	0.04956862711 $\pm$ 0.0005564615774
2 b-tagged && mjj	0.002432952227 $\pm$ 0.0001189951652	0.004522970365 $\pm$ 0.0001621744247