

|   | Untagged                      | Boosted                    | VBF-<br>1jet              | VBF-<br>2jet              | VH-<br>leptonic           | VH-<br>hadronic               |
|---|-------------------------------|----------------------------|---------------------------|---------------------------|---------------------------|-------------------------------|
| ggH sig                                       | 171.46                        | 6.48                       | 15.15                     | 10.44                     | 0.35                      | 5.99                          |
| VBF sig                                       | 5.06                          | 1.18                       | 2.64                      | 8.60                      | 0.06                      | 0.54                          |
| $(a_3/a_2/$<br>$\kappa_1/\kappa_2^{Z\gamma})$ | (0.29/0.29/<br>0.05/0.09)     | (0.69/0.54/<br>0.52/0.48)  | (0.12/0.09/<br>0.03/0.05) | (6.10/4.95/<br>1.91/1.83) | (0.03/0.02/<br>0.01/0.01) | (0.28/0.21/<br>0.07/0.07)     |
| WH sig  | 2.18                          | 0.43                       | 0.29                      | 0.22                      | 1.11                      | 1.20                          |
| $(a_3/a_2/$<br>$\kappa_1/\kappa_2^{Z\gamma})$ | (1.93/3.15/<br>0.72/0.00)     | (3.81/3.20/<br>6.28/0.00)  | (0.83/0.92/<br>0.22/0.00) | (1.20/1.05/<br>2.04/0.00) | (2.75/2.86/<br>3.47/0.00) | (3.43/3.33/<br>2.93/0.00)     |
| ZH sig  | 1.87                          | 0.34                       | 0.16                      | 0.16                      | 0.26                      | 0.79                          |
| $(a_3/a_2/$<br>$\kappa_1/\kappa_2^{Z\gamma})$ | (0.99/1.89/<br>0.68/1.17)     | (1.87/1.66/<br>4.14/12.34) | (0.30/0.35/<br>0.12/0.27) | (0.56/0.51/<br>1.30/3.88) | (0.42/0.48/<br>0.65/1.82) | (1.42/1.53/<br>1.84/4.69)     |
| bbH sig                                       | 1.84                          | 0.04                       | 0.13                      | 0.09                      | 0.03                      | 0.09                          |
| ttH sig                                       | 1.65                          | 0.04                       | 0.00                      | 0.32                      | 0.13                      | 0.19                          |
| tH sig  | 0.13                          | 0.02                       | 0.01                      | 0.12                      | 0.04                      | 0.05                          |
| Signal  | 184.1                         | 8.5                        | 18.4                      | 19.8                      | 1.9                       | 8.8                           |
| $(a_3/a_2/$<br>$\kappa_1/\kappa_2^{Z\gamma})$ | (178.2/180.3/<br>176.4/176.2) | (12.9/12.0/<br>17.5/19.4)  | (16.5/16.7/<br>15.7/15.6) | (18.7/17.4/<br>16.1/16.6) | (3.7/3.9/<br>4.6/2.3)     | (11.4/11.4/<br>11.1/11.0)     |
| $q\bar{q} \rightarrow 4\ell$ bkg              | 206.05                        | 1.89                       | 6.78                      | 2.78                      | 2.21                      | 2.30                          |
| $gg \rightarrow 4\ell$ bkg                    | 19.05                         | 0.38                       | 1.52                      | 0.76                      | 0.37                      | 0.31                          |
| EW bkg  | 3.50                          | 0.66                       | 0.20                      | 1.98                      | 0.23                      | 0.85                          |
| Z + X bkg                                     | 69.87                         | 3.73                       | 2.46                      | 9.70                      | 1.20                      | 4.10                          |
| Total   | 481.3                         | 15.1                       | 29.3                      | 34.9                      | 5.9                       | 16.24                         |
| $(a_3/a_2/$<br>$\kappa_1/\kappa_2^{Z\gamma})$ | (475.4/477.5/<br>473.6/473.4) | (19.5/18.6/<br>24.1/26.0)  | (27.4/27.6/<br>26.6/26.5) | (33.8/32.4/<br>31.1/31.6) | (7.7/7.9/<br>8.6/6.3)     | (18.83/18.78/<br>18.54/18.47) |
| Observed                                      | 512                           | 18                         | 27                        | 30                        | 10                        | 13                            |