

Table 1: SM yields (June 21, 2022 from analysis version “anatest15”)

|                 | 2lss 4t m 2b | 2lss 4t p 2b | 2lss m 2b | 2lss p 2b | 3l1b m | 3l1b p | 3l2b m | 3l2b p | 3l sfz 1b | 3l sfz 2b | 4l 2b |
|-----------------|--------------|--------------|-----------|-----------|--------|--------|--------|--------|-----------|-----------|-------|
| Diboson sm      | 0.02         | 0.09         | 10.32     | 12.43     | 26.37  | 24.51  | 1.42   | 2.22   | 265.9     | 19.09     | 4.18  |
| Triboson sm     | 0.04         | 0.07         | 2.06      | 3.0       | 0.92   | 1.28   | 0.1    | 0.16   | 15.54     | 2.52      | 0.43  |
| charge flips sm | 1.62         | 1.57         | 17.5      | 17.4      | 0.0    | 0.0    | 0.0    | 0.0    | 0.0       | 0.0       | 0.0   |
| fakes sm        | 6.94         | 9.28         | 116.31    | 124.88    | 58.19  | 57.87  | 12.81  | 11.37  | 60.2      | 11.69     | 0.0   |
| convs sm        | 0.95         | 0.83         | 11.54     | 9.69      | 3.36   | 2.92   | 3.2    | 3.04   | 0.79      | 0.67      | 0.01  |
| Sum bkg         | 9.57         | 11.84        | 157.72    | 167.39    | 88.83  | 86.59  | 17.52  | 16.8   | 342.43    | 33.97     | 4.61  |
| ttlnu sm        | 10.64        | 20.1         | 125.08    | 236.48    | 22.07  | 40.68  | 23.31  | 43.31  | 8.75      | 9.77      | 0.02  |
| ttll sm         | 8.26         | 8.6          | 79.45     | 80.89     | 39.06  | 39.31  | 36.84  | 37.12  | 284.7     | 260.69    | 35.48 |
| ttH sm          | 9.25         | 9.24         | 83.1      | 83.28     | 23.38  | 23.08  | 22.61  | 22.43  | 9.56      | 9.58      | 3.45  |
| tllq sm         | 0.45         | 0.82         | 6.41      | 11.54     | 5.4    | 9.45   | 2.35   | 4.16   | 110.34    | 47.22     | 0.01  |
| tHq sm          | 0.12         | 0.22         | 1.41      | 2.61      | 0.47   | 0.83   | 0.35   | 0.6    | 0.34      | 0.23      | 0.03  |
| tttt sm         | 7.29         | 7.24         | 5.79      | 5.7       | 0.66   | 0.64   | 3.67   | 3.71   | 0.16      | 0.98      | 0.41  |
| Sum sig         | 36.01        | 46.23        | 301.23    | 420.51    | 91.03  | 113.98 | 89.13  | 111.33 | 413.86    | 328.47    | 39.4  |
| Sum expected    | 45.58        | 58.07        | 458.96    | 587.9     | 179.86 | 200.57 | 106.65 | 128.13 | 756.28    | 362.44    | 44.01 |