METHODS OF TREATING A SEMICONDUCTOR LAYER

ABSTRACT

Methods for treating a semiconductor layer including a semiconductor material are presented. A method incudes contacting at least a portion of the semiconductor material with a passivating agent. The method further includes forming a first region in the semiconductor layer by introducing a dopant into the semiconductor material; and forming a chalcogen-rich region. The method further includes forming a second region in the semiconductor layer, the second region including a dopant, wherein an average atomic concentration of the dopant in the second region is greater than an average atomic concentration of the dopant in the first region. Photovoltaic devices are also presented.

Figure 1