Electronic Supplementary Information for:

Enhanced efficiency of graphene/silicon heterojunction solar cells by molecular doping

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Fig. S1 Light current density-voltage curves of 2#, 3#, 5#, 6#, 8#, 9#, 11# and 12# solar cells before and after volatile oxidant treatment. (a) 2# and 3#, (b) 5# and 6#, (c) 8# and 9#, (d) 11# and 12#.

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**Fig. S2** Current-voltage curves of pristine graphene and HNO\textsubscript{3}, SOCl\textsubscript{2}, H\textsubscript{2}O\textsubscript{2}, HCl treated graphene. (The slope of each line represents the corresponding sheet resistances of graphene)

**Fig. S3** Dark current density-voltage curves of 1#, 4#, 7# and 10# cells before and after volatile oxidant treatment.
**Fig. S4** Light current density-voltage curves of 1#-HNO₃, 4#-SOCl₂, 7#-H₂O₂, and 10#-HCl cells during 8 days storage in air.

**Fig. S5** Light current density-voltage curves of 2#-HNO₃, 3#-HNO₃, 5#-SOCl₂, 6#-SOCl₂, 8#-H₂O₂, 9#-H₂O₂, 11#-HCl and 12#-HCl cells after 8 days storage in air.