***Datasets for Machine learning-assisted studying the morphology of perovskite solar cell***

The related part of the dataset (the picture dataset will not be provided due to copyright issues, but the DOI of the corresponding article will be provided)

[GitHub - ZhxStars9091/Machine-learning-assisted-studying-the-morphology-of-perovskite-solar-cell-: The code used in the dissertation on the morphology of machine-learning-assisted perovskite solar cells and the related part of the dataset (the picture dataset will not be provided due to copyright issues, but the DOI of the corresponding article will be provided)](https://github.com/ZhxStars9091/Machine-learning-assisted-studying-the-morphology-of-perovskite-solar-cell-)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Perovskite Components** | **Treatment/Modification** | ***R*** | **A2X** | **P2X** | ***J*sc**  **[mA cm-2]** | ***V*oc**  **[V]** | **FF**  **[%]** | **PCE**  **[%]** | **Scale bar on SEM** | **DOI** |
| 1 | MAPbI3 | 0mg/mL PEDOT:PSS | 1.330 | 1.095:3 | 0.953:3 | 21.09 | 0.952 | 77.48 | 15.56 | 1um | 10.1016/j.orgel.2021.106298 |
|  |  | 5mg/mL PEDOT:PSS | 1.330 | 1.095:3 | 0.953:3 | 21.51 | 0.987 | 76.44 | 16.23 | 1um | 10.1016/j.orgel.2021.106298 |
|  |  | 10mg/mL PEDOT:PSS | 1.330 | 1.095:3 | 0.953:3 | 21.57 | 1.009 | 78.53 | 17.09 | 1um | 10.1016/j.orgel.2021.106298 |
|  |  | 15mg/mL PEDOT:PSS | 1.330 | 1.095:3 | 0.953:3 | 22.20 | 0.968 | 75.43 | 16.21 | 1um | 10.1016/j.orgel.2021.106298 |
| 2 | Cs0.05FA0.81MA0.14PbI2.55Br0.45 | ZTO | 1.351 | 1:3 | 1:3 | 22.60 | 1.140 | 77.80 | 20.10 | 500nm | 10.1002/aenm.201901620 |
|  |  | TiO2 | 1.351 | 1:3 | 1:3 | 22.10 | 1.110 | 77.50 | 19.00 | 500nm | 10.1002/aenm.201901620 |
| 3 | CsMAFA | Control | 1.351 | 0.982:3 | 1.009:3 | 22.20 | 1.078 | 75.50 | 18.08 | 500nm | 10.1126/sciadv.abg0633 |
|  |  | PPP | 1.351 | 0.982:3 | 1.009:3 | 23.14 | 1.131 | 83.70 | 21.91 | 500nm | 10.1126/sciadv.abg0633 |
| 4 | Cs0.1FA0.9PbI2.9Br0.1 | Control | 1.327 | 1:3 | 1:3 | 23.33 | 1.109 | 80.90 | 20.92 | 400nm | 10.1126/sciadv.abj7930 |
|  |  | PEAI | 1.327 | 1:3 | 1:3 | 23.65 | 1.155 | 76.90 | 21.00 | 400nm | 10.1126/sciadv.abj7930 |
|  |  | Cl-PEAI | 1.327 | 1:3 | 1:3 | 23.68 | 1.141 | 83.80 | 22.64 | 400nm | 10.1126/sciadv.abj7930 |
|  |  | F-PEAI | 1.327 | 1:3 | 1:3 | 24.13 | 1.155 | 83.70 | 23.32 | 400nm | 10.1126/sciadv.abj7930 |
| 5 | FA0.85MA0.1Cs0.05Pb(I0.97Br0.03)3 | Control | 1.347 | 1.049:3 | 0.976:3 | 24.78 | 1.108 | 77.85 | 21.36 | 500nm | 10.1002/aenm.202201463 |
|  |  | o-MeO | 1.347 | 1.049:3 | 0.976:3 | 25.10 | 1.148 | 81.29 | 23.44 | 500nm | 10.1002/aenm.202201463 |
|  |  | m-MeO | 1.347 | 1.049:3 | 0.976:3 | 25.28 | 1.146 | 80.81 | 23.42 | 500nm | 10.1002/aenm.202201463 |
|  |  | p-MeO | 1.347 | 1.049:3 | 0.976:3 | 25.28 | 1.112 | 78.41 | 22.14 | 500nm | 10.1002/aenm.202201463 |
| 6 | CH3NH3PbI3 | Control | 1.330 | 1:3 | 1:3 | 22.15 | 1.120 | 74.37 | 18.41 | 1um | 10.1016/j.materresbull.2022.111949 |
|  |  | 20mg/mLCMDR | 1.330 | 1:3 | 1:3 | 22.67 | 1.140 | 76.11 | 19.79 | 1um | 10.1016/j.materresbull.2022.111949 |
|  |  | 50mg/mLCMDR | 1.330 | 1:3 | 1:3 | 22.76 | 1.160 | 78.11 | 20.63 | 1um | 10.1016/j.materresbull.2022.111949 |
|  |  | 100mg/mLCMDR | 1.330 | 1:3 | 1:3 | 22.25 | 1.140 | 76.62 | 19.38 | 1um | 10.1016/j.materresbull.2022.111949 |
| 7 | Cs0.05FA0.81MA0.14PbI2.55Br0.45 | Control | 1.351 | 1.051:3 | 0.989:3 | 22.65 | 1.190 | 75.70 | 20.41 | 200nm | 10.1002/smll.202203536 |
|  |  | EABr | 1.351 | 1.051:3 | 0.989:3 | 22.72 | 1.200 | 77.50 | 21.06 | 200nm | 10.1002/smll.202203536 |
| 8 | Cs0.05FA0.85MA0.10Pb(I0.97Br0.03)3 | Control | 1.347 | 0.975:3 | 1.103:3 | 24.46 | 1.060 | 77.00 | 20.04 | 500nm | 10.1016/j.cej.2022.134613 |
|  |  | HBPC4 | 1.347 | 0.975:3 | 1.103:3 | 24.98 | 1.110 | 80.00 | 22.07 | 500nm | 10.1016/j.cej.2022.134613 |
| 9 | Cs0.06FA0.8MA0.14Pb(I0.86Br0.14)3 | Control | 1.346 | 1.023:3 | 0.989:3 | 23.07 | 1.090 | 77.90 | 19.62 | 200nm | 10.1016/j.solener.2021.11.075 |
|  |  | TPL | 1.346 | 1.023:3 | 0.989:3 | 23.46 | 1.120 | 80.75 | 21.39 | 200nm | 10.1016/j.solener.2021.11.075 |
|  |  | APL | 1.346 | 1.023:3 | 0.989:3 | 23.86 | 1.130 | 81.82 | 22.11 | 200nm | 10.1016/j.solener.2021.11.075 |
| 10 | CH3NH3PbI3 | SnO2/Control | 1.330 | 1.009:3 | 0.996:3 | 22.13 | 1.140 | 79.47 | 20.05 | 100nm | 10.1016/j.electacta.2022.140930 |
|  |  | SnO2/L-His | 1.330 | 1.009:3 | 0.996:3 | 22.74 | 1.160 | 79.76 | 21.04 | 100nm | 10.1016/j.electacta.2022.140930 |
| 11 | Cs0.2FA0.8Pb(I0.7Br0.3)3 | Control | 1.291 | 1:3 | 1:3 | 18.83 | 1.180 | 70.32 | 15.72 | 1um | 10.1016/j.jcis.2021.07.147 |
|  |  | KBF4 | 1.291 | 1:3 | 1:3 | 18.95 | 1.210 | 76.06 | 17.49 | 1um | 10.1016/j.jcis.2021.07.147 |
| 12 | MAPbI3 | Control | 1.351 | 0.974:3 | 1.013:3 | 24.60 | 1.070 | 72.90 | 19.30 | 1um | 10.1016/j.orgel.2022.106543 |
|  |  | PLA | 1.351 | 0.974:3 | 1.013:3 | 24.70 | 1.100 | 75.80 | 20.60 | 1um | 10.1016/j.orgel.2022.106543 |
| 13 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 18.06 | 1.062 | 72.48 | 13.94 | 500nm | 10.1016/j.optmat.2022.112901 |
|  |  | 0.75%NOBF4 | 1.330 | 1:3 | 1:3 | 18.46 | 1.091 | 73.53 | 14.81 | 500nm | 10.1016/j.optmat.2022.112901 |
|  |  | 1.5%NOBF4 | 1.330 | 1:3 | 1:3 | 18.88 | 1.122 | 75.32 | 16.15 | 500nm | 10.1016/j.optmat.2022.112901 |
|  |  | 2.25%NOBF4 | 1.330 | 1:3 | 1:3 | 18.88 | 1.096 | 73.40 | 15.19 | 500nm | 10.1016/j.optmat.2022.112901 |
| 14 | Cs0.1FA0.74MA0.13PbI2.48Br0.39 | Control | 1.287 | 1:3 | 1:3 | 20.41 | 1.070 | 74.00 | 16.90 | 1um | 10.1016/j.cej.2022.136626 |
|  |  | withPTABr | 1.287 | 1:3 | 1:3 | 20.42 | 1.150 | 78.00 | 18.30 | 1um | 10.1016/j.cej.2022.136626 |
| 15 | (CsFAMA)Pb(BrI)3 | W/oZnP | 1.420 | 1.094:3 | 0.953:3 | 23.12 | 1.070 | 77.89 | 19.77 | 2um | 10.1016/j.cej.2021.132405 |
|  |  | W/ZnP | 1.420 | 1.094:3 | 0.953:3 | 23.19 | 1.110 | 79.29 | 20.53 | 2um | 10.1016/j.cej.2021.132405 |
| 16 | MAPbI3 | Pristine | 1.330 | 1.000:3 | 0.997:3 | 23.16 | 1.097 | 75.43 | 19.16 | 1um | 10.1016/j.jechem.2021.06.023 |
|  |  | 0.5%AA | 1.330 | 1.000:3 | 0.997:3 | 23.73 | 1.101 | 76.24 | 19.91 | 1um | 10.1016/j.jechem.2021.06.023 |
|  |  | 1%AA | 1.330 | 1.000:3 | 0.997:3 | 24.48 | 1.120 | 76.95 | 21.09 | 1um | 10.1016/j.jechem.2021.06.023 |
|  |  | 2%AA | 1.330 | 1.000:3 | 0.997:3 | 24.05 | 1.106 | 76.45 | 20.34 | 500nm | 10.1016/j.jechem.2021.06.023 |
| 17 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 22.35 | 1.030 | 78.75 | 18.75 | 200nm | 10.1016/j.jechem.2021.06.029 |
|  |  | CI-HOBT | 1.330 | 1:3 | 1:3 | 23.12 | 1.090 | 79.74 | 20.27 | 200nm | 10.1016/j.jechem.2021.06.029 |
| 18 | Cs0.06(FA0.92MA0.08)0.94Pb(I0.92Br0.08)3 | toichiometric | 1.346 | 1:3 | 1:3 | 24.30 | 1.090 | 76.00 | 20.10 | 200nm | 10.1016/j.joule.2022.03.005 |
|  |  | 5%PbI2 | 1.346 | 1:3 | 1:3 | 24.30 | 1.090 | 80.20 | 21.20 | 200nm | 10.1016/j.joule.2022.03.005 |
|  |  | 5%PbI2+BABr | 1.346 | 1:3 | 1:3 | 24.40 | 1.150 | 80.10 | 22.50 | 200nm | 10.1016/j.joule.2022.03.005 |
| 19 | CsxFA1-xPbx-3 | SO | 1.330 | 1:3 | 1:3 | 23.08 | 1.020 | 76.85 | 18.18 | 1um | 10.1016/j.joule.2022.05.002 |
|  |  | EV | 1.330 | 1:3 | 1:3 | 24.62 | 1.110 | 79.04 | 21.67 | 1um | 10.1016/j.joule.2022.05.002 |
| 20 | Cs0.05FA0.79MA0.16Pb(I0.84Br0.16)3 | RC24 | 1.351 | 1.069:3 | 0.966:3 | 22.30 | 1.123 | 79.00 | 19.80 | 800nm | 10.1021/acsami.2c01981 |
|  |  | RC25 | 1.351 | 1.069:3 | 0.966:3 | 22.10 | 1.116 | 79.00 | 19.60 | 800nm | 10.1021/acsami.2c01981 |
|  |  | RC34 | 1.351 | 1.069:3 | 0.966:3 | 22.50 | 1.109 | 79.00 | 19.70 | 800nm | 10.1021/acsami.2c01981 |
| 21 | CsFAMA | Control | 1.351 | 1.037:3 | 0.981:3 | 23.09 | 1.125 | 75.40 | 19.59 | 500nm | 10.1002/adfm.202112388 |
|  |  | LBSO | 1.351 | 1.037:3 | 0.981:3 | 23.78 | 1.126 | 78.80 | 21.62 | 500nm | 10.1002/adfm.202112388 |
| 22 | FAPbI3 | 3D | 1.374 | 1:3 | 1:3 | 22.31 | 1.010 | 73.10 | 16.50 | 500nm | 10.1002/adfm.202108567 |
|  |  | 3D-2D | 1.374 | 1:3 | 1:3 | 24.01 | 1.020 | 76.00 | 18.60 | 500nm | 10.1002/adfm.202108567 |
|  |  | 3D-2D-PVK | 1.374 | 1:3 | 1:3 | 24.81 | 1.110 | 78.40 | 21.60 | 500nm | 10.1002/adfm.202108567 |
| 23 | CsMAFA | Control | 1.347 | 0.982:3 | 1.009:3 | 22.75 | 1.095 | 73.10 | 18.21 | 500nm | 10.1002/adfm.202201036 |
|  |  | PBAT | 1.347 | 0.982:3 | 1.009:3 | 23.49 | 1.128 | 81.90 | 21.70 | 500nm | 10.1002/adfm.202201036 |
| 24 | MAPbI3 | Control | 1.330 | 0.645:3 | 1.176:3 | 22.66 | 1.091 | 76.50 | 18.91 | 500nm | 10.1021/acsami.1c18520 |
|  |  | GACl | 1.330 | 0.645:3 | 1.176:3 | 22.95 | 1.110 | 78.80 | 20.08 | 500nm | 10.1021/acsami.1c18520 |
|  |  | PEACl | 1.330 | 0.645:3 | 1.176:3 | 22.58 | 1.120 | 77.60 | 19.63 | 500nm | 10.1021/acsami.1c18520 |
|  |  | PG | 1.330 | 0.645:3 | 1.176:3 | 23.20 | 1.130 | 78.70 | 20.64 | 500nm | 10.1021/acsami.1c18520 |
| 25 | Cs0.05(MA0.1FA0.9)0.95Pb(I0.9Br0.1)3 | Control | 1.317 | 1.065:3 | 0.967:3 | 23.58 | 1.060 | 79.00 | 19.76 | 200nm | 10.1002/adfm.202105290 |
| 26 | Cs0.05MA0.15FA0.80PbI3 | DC-PA | 1.344 | 1:3 | 1:3 | 24.58 | 1.130 | 81.52 | 22.64 | 1um | 10.1002/anie.202203088 |
|  |  | DC-PA/IAHA | 1.344 | 1:3 | 1:3 | 24.66 | 1.160 | 82.45 | 23.59 | 1um | 10.1002/anie.202203088 |
| 27 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 21.86 | 1.040 | 75.99 | 18.20 | 400nm | 10.1002/aenm.202103674 |
|  |  | CBSA | 1.330 | 1:3 | 1:3 | 23.23 | 1.110 | 80.17 | 20.70 | 400nm | 10.1002/aenm.202103674 |
| 28 | Cs0.05FA0.80MA0.15Pb(I0.85Br0.15)3 | FABR | 1.351 | 1:3 | 1:3 | 22.50 | 1.190 | 78.00 | 21.50 | 1um | 10.1002/adma.202106280 |
|  |  | MABr | 1.351 | 1:3 | 1:3 | 22.30 | 1.170 | 77.50 | 20.50 | 1um | 10.1002/adma.202106280 |
|  |  | FEABr | 1.351 | 1:3 | 1:3 | 22.10 | 1.110 | 74.00 | 18.70 | 1um | 10.1002/adma.202106280 |
| 29 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 20.93 | 1.060 | 76.97 | 17.07 | 1um | 10.1002/solr.202101101 |
|  |  | MA/FPA | 1.330 | 1:3 | 1:3 | 23.06 | 1.100 | 82.52 | 20.86 | 1um | 10.1002/solr.202101101 |
| 30 | MAPbI3 |  | 1.330 | 1:3 | 1:3 | 25.65 | 0.856 | 86.09 | 18.91 | 200nm | 10.1002/pssa.202100664 |
|  | MASnI3 |  | 1.330 | 1:3 | 1:3 | 14.02 | 0.888 | 83.72 | 10.42 | 200nm | 10.1002/pssa.202100664 |
| 31 | CH3NH3PbI3 | X=0mMCH3NH3PbI3(x) | 1.330 | 1:3 | 1:3 | 21.27 | 1.100 | 74.50 | 17.31 | 100nm | 10.1007/s12613-021-2316-0 |
|  |  | X=0.01mMCH3NH3PbI3(x) | 1.330 | 1:3 | 1:3 | 22.31 | 1.100 | 74.20 | 18.26 | 100nm | 10.1007/s12613-021-2316-0 |
|  |  | X=0.03mMCH3NH3PbI3(x) | 1.330 | 1:3 | 1:3 | 24.34 | 1.100 | 75.20 | 20.10 | 100nm | 10.1007/s12613-021-2316-0 |
|  |  | X=0.06mMCH3NH3PbI3(x) | 1.330 | 1:3 | 1:3 | 23.69 | 1.080 | 73.20 | 18.68 | 100nm | 10.1007/s12613-021-2316-0 |
| 32 | MA0.17FA0.83Pb(I0.83Br0.17)3 | Control | 1.375 | 0.938:3 | 1.031:3 | 19.80 | 1.130 | 76.60 | 16.90 | 1um | 10.1002/ente.202101059 |
|  |  | 0.5mg/mLg-N-CDs | 1.375 | 0.938:3 | 1.031:3 | 20.00 | 1.136 | 77.80 | 16.80 | 1um | 10.1002/ente.202101059 |
|  |  | 1mg/mLg-N-CDs | 1.375 | 0.938:3 | 1.031:3 | 19.20 | 1.118 | 77.40 | 16.50 | 1um | 10.1002/ente.202101059 |
|  |  | 2mg/mLg-N-CDs | 1.375 | 0.938:3 | 1.031:3 | 18.70 | 1.097 | 75.50 | 15.20 | 1um | 10.1002/ente.202101059 |
| 33 | Cs0.1(MA0.12FA0.88)0.9Pb(I0.95Br0.05)3 | Fmoc-0 | 1.324 | 1.024:3 | 0.989:3 | 17.65 | 1.010 | 74.78 | 13.33 | 1um | 10.1016/j.orgel.2022.106598 |
|  |  | Fmoc-1 | 1.324 | 1.024:3 | 0.989:3 | 18.80 | 1.020 | 73.22 | 14.09 | 1um | 10.1016/j.orgel.2022.106598 |
|  |  | Fmoc-2 | 1.324 | 1.024:3 | 0.989:3 | 18.64 | 1.050 | 79.65 | 15.59 | 1um | 10.1016/j.orgel.2022.106598 |
| 34 | CH3NH3PbI3 | 1DMSO | 1.330 | 1:3 | 1:3 | 23.03 | 0.980 | 70.00 | 25.89 | 500nm | 10.1016/j.jssc.2022.123158 |
|  |  | 1.25DMSO | 1.330 | 1:3 | 1:3 | 21.46 | 0.990 | 74.20 | 15.72 | 500nm | 10.1016/j.jssc.2022.123158 |
|  |  | 1.5DMSO | 1.330 | 1:3 | 1:3 | 23.06 | 0.920 | 70.30 | 14.88 | 500nm | 10.1016/j.jssc.2022.123158 |
| 35 | FA0.85Cs0.15PbI3 | Control | 1.302 | 1.096:3 | 0.952:3 | 23.60 | 1.009 | 68.44 | 16.29 | 300nm | 10.1016/j.solmat.2022.111641 |
|  |  | 0.1%DOPO | 1.302 | 1.096:3 | 0.952:3 | 24.64 | 1.068 | 79.99 | 21.05 | 300nm | 10.1016/j.solmat.2022.111641 |
| 36 | CsI0.04(FAI)0.82(PbI2)0.86(MAPbBr3)0.14 | Control | 1.353 | 1:3 | 1:3 | 21.50 | 1.059 | 73.10 | 16.64 | 500nm | 10.1016/j.cej.2022.136118 |
|  |  | Fe2O3 | 1.353 | 1:3 | 1:3 | 21.74 | 1.082 | 75.40 | 17.74 | 500nm | 10.1016/j.cej.2022.136118 |
|  |  | Fe1.92Mg0.08O3 | 1.353 | 1:3 | 1:3 | 22.02 | 1.098 | 77.90 | 18.83 | 500nm | 10.1016/j.cej.2022.136118 |
|  |  | Fe1.84Mg0.16O3 | 1.353 | 1:3 | 1:3 | 22.94 | 1.117 | 79.80 | 20.45 | 500nm | 10.1016/j.cej.2022.136118 |
|  |  | Fe1.76Mg0.24O3 | 1.353 | 1:3 | 1:3 | 19.19 | 1.108 | 78.60 | 19.19 | 500nm | 10.1016/j.cej.2022.136118 |
| 37 | FAPbI3 | Control3D | 1.374 | 1:3 | 1:3 | 20.58 | 1.117 | 78.00 | 17.92 | 500nm | 10.1016/j.cej.2022.136469 |
|  |  | Modified3D | 1.374 | 1:3 | 1:3 | 22.35 | 1.143 | 78.50 | 20.05 | 500nm | 10.1016/j.cej.2022.136469 |
|  |  | Control3D/2D | 1.374 | 1:3 | 1:3 | 23.19 | 1.169 | 79.80 | 21.64 | 500nm | 10.1016/j.cej.2022.136469 |
|  |  | Modified3D/2D | 1.374 | 1:3 | 1:3 | 24.20 | 1.182 | 81.00 | 23.18 | 500nm | 10.1016/j.cej.2022.136469 |
| 38 | Cs0.175FA0.75MA0.075Pb(I0.880Br0.120)3 | Pristine | 1.292 | 1.055:3 | 0.973:3 | 22.38 | 1.069 | 76.90 | 18.40 | 1um | 10.1016/j.nanoen.2022.107193 |
|  |  | HA | 1.292 | 1.055:3 | 0.973:3 | 22.40 | 1.126 | 77.21 | 19.50 | 1um | 10.1016/j.nanoen.2022.107193 |
|  |  | BA | 1.292 | 1.055:3 | 0.973:3 | 22.68 | 1.122 | 77.73 | 19.77 | 1um | 10.1016/j.nanoen.2022.107193 |
|  |  | PA | 1.292 | 1.055:3 | 0.973:3 | 22.66 | 1.132 | 77.97 | 20.00 | 1um | 10.1016/j.nanoen.2022.107193 |
|  |  | PHA | 1.292 | 1.055:3 | 0.973:3 | 23.06 | 1.153 | 77.93 | 20.72 | 1um | 10.1016/j.nanoen.2022.107193 |
| 39 | Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3 | Control | 1.351 | 0.979:3 | 1.011:3 | 21.93 | 1.080 | 80.70 | 19.20 | 500nm | 10.1016/j.nanoen.2022.107529 |
|  |  | NaAcseed | 1.351 | 0.979:3 | 1.011:3 | 22.76 | 1.140 | 82.73 | 21.48 | 500nm | 10.1016/j.nanoen.2022.107529 |
| 40 | (FAPbI3)0.95(MAPbBr3)0.05 | 0mg/mLSnO2-MESNa+ | 1.375 | 0.968:3 | 1.016:3 | 23.23 | 1.060 | 70.80 | 17.43 | 100nm | 10.1016/j.jcis.2021.11.051 |
|  |  | 5mg/mLSnO2-MESNa+ | 1.375 | 0.968:3 | 1.016:3 | 23.83 | 1.110 | 77.38 | 20.46 | 100nm | 10.1016/j.jcis.2021.11.051 |
|  |  | 10mg/mLSnO2-MESNa+ | 1.375 | 0.968:3 | 1.016:3 | 23.88 | 1.120 | 78.69 | 21.05 | 100nm | 10.1016/j.jcis.2021.11.051 |
|  |  | 15mg/mLSnO2-MESNa+ | 1.375 | 0.968:3 | 1.016:3 | 23.46 | 1.080 | 77.64 | 19.67 | 100nm | 10.1016/j.jcis.2021.11.051 |
| 41 | CsFAMA | Pristine | 1.336 | 1.009:3 | 0.995:3 | 23.17 | 1.119 | 75.00 | 19.43 | 1um | 10.1016/j.jcis.2022.01.103 |
| 42 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 20.85 | 1.090 | 75.00 | 17.40 | 100nm | 10.1016/j.apsusc.2022.152670 |
|  |  | SA | 1.330 | 1:3 | 1:3 | 21.57 | 1.100 | 77.00 | 18.27 | 100nm | 10.1016/j.apsusc.2022.152670 |
|  |  | PTA | 1.330 | 1:3 | 1:3 | 22.16 | 1.100 | 80.00 | 19.50 | 100nm | 10.1016/j.apsusc.2022.152670 |
|  |  | BPDA | 1.330 | 1:3 | 1:3 | 22.67 | 1.120 | 81.00 | 20.57 | 100nm | 10.1016/j.apsusc.2022.152670 |
| 43 |  | SnO2 | 1.336 | 1:3 | 1:3 | 23.14 | 1.070 | 73.41 | 18.24 | 1um | 10.1016/j.apsusc.2022.152943 |
|  |  | PAD-SnO2 | 1.336 | 1:3 | 1:3 | 23.91 | 1.100 | 81.68 | 21.47 | 1um | 10.1016/j.apsusc.2022.152943 |
| 44 | FA1-xMAxPbI3-yBry | withoutEPB | 1.367 | 0.56:3 | 1.235:3 | 23.40 | 1.039 | 77.50 | 18.85 | 1um | 10.1016/j.apsusc.2022.155042 |
|  |  | withEPBstatic-cast | 1.367 | 0.56:3 | 1.235:3 | 23.95 | 1.065 | 76.20 | 19.44 | 1um | 10.1016/j.apsusc.2022.155042 |
|  |  | withEPBdynamic-cast | 1.367 | 0.56:3 | 1.235:3 | 24.14 | 1.092 | 78.55 | 20.71 | 1um | 10.1016/j.apsusc.2022.155042 |
| 45 | Rb0.02(FA0.95Cs0.05)0.98PbI2.91Br0.03Cl0.06 | Control | 1.428 | 1.242:3 | 0.697:3 | 24.35 | 1.080 | 71.12 | 18.70 | 1um | 10.1016/j.cej.2022.135410 |
|  |  | OPspin-coated | 1.428 | 1.242:3 | 0.697:3 | 24.85 | 1.120 | 78.23 | 21.77 | 1um | 10.1016/j.cej.2022.135410 |
| 46 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 23.08 | 1.120 | 74.00 | 19.15 | 500nm | 10.1016/j.cej.2022.139345 |
|  |  | BTFSI | 1.330 | 1:3 | 1:3 | 23.18 | 1.160 | 74.71 | 20.14 | 500nm | 10.1016/j.cej.2022.139345 |
|  |  | 2-PDA | 1.330 | 1:3 | 1:3 | 23.21 | 1.170 | 76.82 | 20.92 | 500nm | 10.1016/j.cej.2022.139345 |
|  |  | 2-BTFSIP | 1.330 | 1:3 | 1:3 | 23.49 | 1.180 | 79.27 | 21.96 | 500nm | 10.1016/j.cej.2022.139345 |
| 47 | (FAPbI3)1-x(MAPbBr3)x | Control | 1.339 | 0.591:3 | 1.205:3 | 24.39 | 1.088 | 75.00 | 19.99 | 1um | 10.1016/j.jechem.2022.02.016 |
|  |  | FBABF4 | 1.339 | 0.591:3 | 1.205:3 | 24.79 | 1.147 | 79.00 | 22.46 | 1um | 10.1016/j.jechem.2022.02.016 |
| 48 | (Cs0.08FA0.8MA0.12)Pb(I0.88Br0.12)3 | [C1CNim]Cl | 1.336 | 0.977:3 | 1.011:3 | 24.10 | 1.130 | 80.40 | 21.82 | 1um | 10.1016/j.xcrp.2022.100848 |
|  |  | [C3CNim]Cl | 1.336 | 0.977:3 | 1.011:3 | 24.03 | 1.160 | 81.80 | 22.86 | 1um | 10.1016/j.xcrp.2022.100848 |
|  |  | [(C3CN)2im]Cl | 1.336 | 0.977:3 | 1.011:3 | 24.02 | 1.150 | 81.00 | 22.45 | 1um | 10.1016/j.xcrp.2022.100848 |
|  |  | Control | 1.336 | 0.977:3 | 1.011:3 | 24.31 | 1.090 | 79.30 | 20.94 | 1um | 10.1016/j.xcrp.2022.100848 |
| 49 | Cs0.05(FAPbI3)0.83(MAPbBr3)0.17 | Control | 1.431 | 0.987:3 | 1.026:3 | 21.70 | 1.070 | 77.90 | 18.07 | 1um | 10.1021/acsami.2c09201 |
|  |  | 0.5mMTAOC | 1.431 | 0.987:3 | 1.026:3 | 22.25 | 1.090 | 79.45 | 19.27 | 1um | 10.1021/acsami.2c09201 |
| 50 | Cs0.05(FA0.9MA0.1)0.95Pb(I0.9Br0.1)3 | o-PY | 1.351 | 1:3 | 1:3 | 22.66 | 1.070 | 72.59 | 17.60 | 500nm | 10.1002/adfm.202109968 |
|  |  | m-PY | 1.351 | 1:3 | 1:3 | 22.83 | 1.100 | 76.31 | 19.23 | 500nm | 10.1002/adfm.202109968 |
|  |  | p-PY | 1.351 | 1:3 | 1:3 | 23.70 | 1.150 | 80.68 | 22.05 | 500nm | 10.1002/adfm.202109968 |
| 51 | Rb0.05Cs0.05(FA1-xMAx)Pb(I1-xBrx)3 | Control | 1.375 | 1:3 | 1:3 | 22.03 | 1.080 | 78.68 | 18.72 | 200nm | 10.1002/adfm.202200431 |
|  |  | 1wt%ABF | 1.375 | 1:3 | 1:3 | 22.56 | 1.180 | 81.76 | 21.76 | 200nm | 10.1002/adfm.202200431 |
| 52 |  | Control | 1.374 | 1:3 | 1:3 | 23.58 | 1.060 | 78.69 | 19.67 | 1um | 10.1002/cssc.202102474 |
|  |  | KAC | 1.374 | 1:3 | 1:3 | 23.73 | 1.100 | 81.66 | 21.33 | 1um | 10.1002/cssc.202102474 |
|  |  | KAcCL2 | 1.374 | 1:3 | 1:3 | 23.87 | 1.140 | 81.29 | 22.12 | 1um | 10.1002/cssc.202102474 |
| 53 | Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3 | Pristine | 1.351 | 0.974:3 | 1.013:3 | 22.43 | 1.060 | 71.60 | 17.03 | 1um | 10.1039/d1ta09470j |
| 54 | Cs0.175FA0.750MA0.075Pb(I0.880Br0.120)3 | Control | 1.292 | 0.913:3 | 1.043:3 | 21.88 | 1.124 | 75.00 | 18.45 | 500nm | 10.1016/j.xcrp.2022.100906 |
|  |  | 1%HEA | 1.292 | 0.913:3 | 1.043:3 | 23.85 | 1.156 | 80.00 | 22.05 | 500nm | 10.1016/j.xcrp.2022.100906 |
|  |  | 2%HEA | 1.292 | 0.913:3 | 1.043:3 | 22.75 | 1.157 | 76.00 | 20.01 | 500nm | 10.1016/j.xcrp.2022.100906 |
|  |  | 3%HEA | 1.292 | 0.913:3 | 1.043:3 | 22.34 | 1.165 | 74.00 | 19.25 | 500nm | 10.1016/j.xcrp.2022.100906 |
|  |  | 4%HEA | 1.292 | 0.913:3 | 1.043:3 | 22.05 | 1.128 | 72.00 | 17.91 | 500nm | 10.1016/j.xcrp.2022.100906 |
|  |  | 5%HEA | 1.292 | 0.913:3 | 1.043:3 | 20.86 | 1.115 | 70.00 | 16.28 | 500nm | 10.1016/j.xcrp.2022.100906 |
|  |  | Control | 1.292 | 0.913:3 | 1.043:3 | 22.88 | 1.054 | 74.00 | 17.83 | 1um | 10.1016/j.xcrp.2022.100906 |
|  |  | 1%HEA-CsFAMA | 1.292 | 0.913:3 | 1.043:3 | 23.93 | 1.106 | 81.00 | 21.46 | 1um | 10.1016/j.xcrp.2022.100906 |
| 55 | Cs0.1FA0.9Pb(I0.9Br0.1)3 | Control | 1.331 | 0.969:3 | 1.016:3 | 22.90 | 1.080 | 83.50 | 20.65 | 500nm | 10.1002/solr.202200053 |
|  |  | BASCN | 1.331 | 0.969:3 | 1.016:3 | 23.10 | 1.170 | 82.50 | 22.30 | 500nm | 10.1002/solr.202200053 |
| 56 | CH3NH3PbI3 | Control | 1.330 | 1:3 | 1:3 | 20.40 | 1.110 | 75.54 | 16.92 | 1um | 10.1002/solr.202200238 |
|  |  | AIBN | 1.330 | 1:3 | 1:3 | 22.55 | 1.120 | 77.15 | 19.56 | 1um | 10.1002/solr.202200238 |
|  |  | AIBME | 1.330 | 1:3 | 1:3 | 22.19 | 1.140 | 78.09 | 19.69 | 1um | 10.1002/solr.202200238 |
|  |  | ACVA | 1.330 | 1:3 | 1:3 | 21.09 | 1.110 | 81.91 | 19.21 | 1um | 10.1002/solr.202200238 |
| 57 |  | Control | 1.334 | 0.998:3 | 1.001:3 | 23.01 | 1.086 | 75.10 | 19.05 | 300nm | 10.1002/solr.202200163 |
|  |  | 0.2wt%P4VP | 1.334 | 0.998:3 | 1.001:3 | 24.24 | 1.091 | 72.90 | 19.28 | 300nm | 10.1002/solr.202200163 |
| 58 | MAPbI3 | Control | 1.330 | 1.013:3 | 0.975:3 | 21.82 | 1.044 | 69.00 | 15.71 | 200nm | 10.1016/j.cej.2020.127700 |
|  |  | 0.02mg/mLBi2OS2 | 1.330 | 1.013:3 | 0.975:3 | 23.01 | 1.083 | 76.04 | 18.96 | 200nm | 10.1016/j.cej.2020.127700 |
| 59 | CsFAMA | Pristine | 1.321 | 0.987:3 | 1.025:3 | 21.97 | 1.129 | 76.30 | 15.35 | 1um | 10.1021/acs.jpclett.2c00626 |
|  |  | 0.1MKI | 1.321 | 0.987:3 | 1.025:3 | 22.89 | 1.163 | 74.00 | 20.05 | 1um | 10.1021/acs.jpclett.2c00626 |
|  |  | 3%KI | 1.321 | 0.987:3 | 1.025:3 | 22.83 | 1.157 | 75.10 | 19.86 | 1um | 10.1021/acs.jpclett.2c00626 |
| 60 | Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3 | Control | 1.351 | 0.974:3 | 1.013:3 | 22.84 | 1.110 | 77.40 | 19.62 | 1um | 10.1016/j.mtphys.2021.100543 |
| 61 | MAPbI3 | TiO2-CL | 1.330 | 1:3 | 1:3 | 21.30 | 1.080 | 72.00 | 16.55 | 500nm | 10.1007/s40820-020-00559-2 |
| 62 | CsFAMA | P-SnO2 | 1.377 | 1.089:3 | 0.971:3 | 22.90 | 1.136 | 69.87 | 18.19 | 500nm | 10.1002/smll.202005671 |
|  |  | L-SnO2 | 1.377 | 1.089:3 | 0.971:3 | 23.30 | 1.158 | 73.49 | 19.92 | 500nm | 10.1002/smll.202005671 |
|  |  | H-SnO2 | 1.377 | 1.089:3 | 0.971:3 | 23.40 | 1.164 | 73.82 | 20.13 | 500nm | 10.1002/smll.202005671 |
|  |  | B-SnO2 | 1.377 | 1.089:3 | 0.971:3 | 23.60 | 1.181 | 74.68 | 20.83 | 500nm | 10.1002/smll.202005671 |
| 63 | Cs0.1FA0.9PbI3 | KCL | 1.326 | 1.005:3 | 0.998:3 | 25.17 | 0.993 | 75.99 | 18.99 | 500nm | 10.1002/solr.202100010 |
|  |  | KCl/NH4Cl | 1.326 | 1.005:3 | 0.998:3 | 24.94 | 1.013 | 76.73 | 19.39 | 500nm | 10.1002/solr.202100010 |
| 64 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 20.55 | 1.106 | 74.10 | 16.84 | 500nm | 10.1002/cnma.202100475 |
|  |  | BA-CF3 | 1.330 | 1:3 | 1:3 | 21.50 | 1.093 | 75.20 | 17.68 | 500nm | 10.1002/cnma.202100475 |
|  |  | NA-CF3 | 1.330 | 1:3 | 1:3 | 20.45 | 1.124 | 77.20 | 17.75 | 500nm | 10.1002/cnma.202100475 |
| 65 | FA0.85MA0.15PbI2.55Br0.45 | Pristine | 1.375 | 1:3 | 1:3 | 22.66 | 1.083 | 74.50 | 18.28 | 200nm | 10.1039/d0ta12509a |
|  |  | 0.2mMP2 | 1.375 | 1:3 | 1:3 | 23.06 | 1.091 | 76.00 | 19.13 | 200nm | 10.1039/d0ta12509a |
|  |  | 0.4mMP2 | 1.375 | 1:3 | 1:3 | 23.59 | 1.098 | 78.80 | 20.41 | 200nm | 10.1039/d0ta12509a |
|  |  | 0.6mMP2 | 1.375 | 1:3 | 1:3 | 23.37 | 1.093 | 73.10 | 18.67 | 200nm | 10.1039/d0ta12509a |
| 66 | MAPbI3 | Pristine | 1.330 | 1.047:3 | 0.980:3 | 23.68 | 1.097 | 76.00 | 19.64 | 500nm | 10.1021/acs.jpclett.0c03566 |
| 67 | MAPbI3(Pb(Ac)2) |  | 1.330 | 1:3 | 1:3 | 21.92 | 1.129 | 81.00 | 19.37 | 500nm | 10.1002/adfm.202107125 |
|  | MAPbI3(PbI2) |  | 1.330 | 1:3 | 1:3 | 23.45 | 1.053 | 78.50 | 18.16 | 500nm | 10.1002/adfm.202107125 |
| 68 | Cs0.05(MA0.15FA0.85)0.95Pb(Br0.15I0.85)3 | c-NiOx | 1.351 | 1.033:3 | 0.984:3 | 22.90 | 1.050 | 77.00 | 18.70 | 500nm | 10.1002/adfm.202102237 |
|  |  | c-NiOx/mp-NiOx | 1.351 | 1.033:3 | 0.984:3 | 23.80 | 1.090 | 79.00 | 20.20 | 500nm | 10.1002/adfm.202102237 |
| 69 | MAPbI3 | PEDOT:PSS(SP) | 1.330 | 1:3 | 1:3 | 18.11 | 0.860 | 77.00 | 11.71 | 1um | 10.1002/advs.202002718 |
|  |  | P3HT-COOH(SP) | 1.330 | 1:3 | 1:3 | 20.68 | 1.040 | 78.00 | 17.01 | 1um | 10.1002/advs.202002718 |
|  |  | P4HT-COOH(SA) | 1.330 | 1:3 | 1:3 | 22.07 | 1.090 | 81.00 | 19.21 | 1um | 10.1002/advs.202002718 |
| 70 | Cs0.05FA0.79MA0.16PbBr0.51I2.49 | Control | 1.351 | 1.058:3 | 0.971:3 | 22.30 | 1.150 | 79.50 | 20.40 | 200nm | 10.1021/acsami.0c17893 |
|  |  | 5vol%FACL | 1.351 | 1.058:3 | 0.971:3 | 21.70 | 1.150 | 82.70 | 21.20 | 200nm | 10.1021/acsami.0c17893 |
| 71 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 20.24 | 1.060 | 71.00 | 15.42 | 500nm | 10.1016/j.jallcom.2020.158079 |
|  |  | hollowmesoporousTiO2 | 1.330 | 1:3 | 1:3 | 22.14 | 1.060 | 73.00 | 17.13 | 500nm | 10.1016/j.jallcom.2020.158079 |
| 72 | MAPb(I0.98Cl0.02)3 | FAGs/PET | 1.330 | 1:3 | 1:3 | 22.60 | 1.100 | 70.00 | 17.40 | 1um | 10.1016/j.nanoen.2021.106384 |
| 73 |  | Control | 1.351 | 0.987:3 | 1.026:3 | 23.90 | 1.050 | 70.20 | 17.62 | 500nm | 10.1002/aenm.202100529 |
|  |  | 11MA | 1.351 | 0.987:3 | 1.026:3 | 24.60 | 1.160 | 81.10 | 23.16 | 500nm | 10.1002/aenm.202100529 |
| 74 | FA0.8MA0.15Cs0.05Pb0.5Sn0.5I3 | Control | 1.344 | 0.974:3 | 1.103:3 | 26.89 | 0.760 | 70.00 | 14.61 | 1um | 10.1021/acsaem.0c02895 |
|  |  | 0.5PEAI | 1.344 | 0.974:3 | 1.103:3 | 26.93 | 0.820 | 71.23 | 16.01 | 1um | 10.1021/acsaem.0c02895 |
|  |  | 1.5PEAI | 1.344 | 0.974:3 | 1.103:3 | 27.47 | 0.850 | 73.13 | 17.33 | 1um | 10.1021/acsaem.0c02895 |
|  |  | 2.5PEAI | 1.344 | 0.974:3 | 1.103:3 | 26.76 | 0.820 | 69.51 | 15.21 | 1um | 10.1021/acsaem.0c02895 |
| 75 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 22.60 | 1.090 | 80.10 | 19.80 | 1um | 10.1038/s41893-021-00701-x |
|  |  | Pb-adsorbingresins | 1.330 | 1:3 | 1:3 | 22.50 | 1.130 | 80.60 | 20.60 | 1um | 10.1038/s41893-021-00701-x |
| 76 | CH3NH3PbI3 | CuInS2 | 1.330 | 1:3 | 1:3 | 23.00 | 0.920 | 81.95 | 17.34 | 500nm | 10.1016/j.solener.2021.10.040 |
|  |  | NiO | 1.330 | 1:3 | 1:3 | 23.50 | 1.013 | 77.02 | 18.33 | 500nm | 10.1016/j.solener.2021.10.040 |
| 77 | CsFAMA | Control | 1.351 | 0.978:3 | 1.011:3 | 20.96 | 1.100 | 76.51 | 17.64 | 500nm | 10.1016/j.nanoen.2021.105742 |
|  |  | PATMBF4 | 1.351 | 0.978:3 | 1.011:3 | 23.72 | 1.110 | 80.32 | 21.15 | 500nm | 10.1016/j.nanoen.2021.105742 |
| 78 | FA0.88MA0.12PbI3 | Control | 1.371 | 1:3 | 1:3 | 23.89 | 1.100 | 73.60 | 19.33 | 500nm | 10.1016/j.nanoen.2021.106509 |
| 79 | MAPbI3 | PEDOT:PSS | 1.330 | 1:3 | 1:3 | 19.29 | 0.840 | 75.04 | 12.14 | 1um | 10.1016/j.jechem.2020.06.002 |
| 80 | MAPbI3 | w/o | 1.330 | 1:3 | 1:3 | 19.96 | 1.060 | 77.44 | 16.46 | 500nm | 10.1021/acsami.1c08539 |
|  |  | w/PVA | 1.330 | 1:3 | 1:3 | 20.37 | 1.090 | 77.90 | 17.28 | 500nm | 10.1021/acsami.1c08539 |
|  |  | w/PMA | 1.330 | 1:3 | 1:3 | 21.77 | 1.110 | 78.54 | 19.05 | 500nm | 10.1021/acsami.1c08539 |
|  |  | w/PAA | 1.330 | 1:3 | 1:3 | 21.70 | 1.130 | 82.76 | 20.29 | 500nm | 10.1021/acsami.1c08539 |
| 81 | FA0.2MA0.8PbI3 | w/o | 1.339 | 1:3 | 1:3 | 23.50 | 1.080 | 81.05 | 20.65 | 1um | 10.1002/adfm.202104036 |
|  |  | PEAL | 1.339 | 1:3 | 1:3 | 22.92 | 1.120 | 82.60 | 21.65 | 1um | 10.1002/adfm.202104036 |
|  |  | AEPL | 1.339 | 1:3 | 1:3 | 22.91 | 1.120 | 82.73 | 21.69 | 1um | 10.1002/adfm.202104036 |
|  |  | PDMAL2 | 1.339 | 1:3 | 1:3 | 22.92 | 1.120 | 82.29 | 21.63 | 1um | 10.1002/adfm.202104036 |
| 82 | [(FAPbI3)0.87(MAPbBr3)0.13]0.92(CsPbI3)0.08 | Control | 1.336 | 1:3 | 1:3 | 24.20 | 1.090 | 79.00 | 20.70 | 500nm | 10.1016/j.chempr.2021.04.002 |
| 83 | MAPbI3 | Control | 1.330 | 1.020:3 | 0.990:3 | 19.80 | 1.050 | 72.30 | 16.15 | 1um | 10.1002/aenm.202101291 |
|  |  | MAPbI3-NCs | 1.330 | 1.020:3 | 0.990:3 | 19.80 | 1.050 | 72.30 | 16.15 | 1um | 10.1002/aenm.202101291 |
| 84 | CsFAMA | SnO2 | 1.353 | 1:3 | 1:3 | 24.07 | 1.089 | 73.34 | 19.22 | 500nm | 10.1002/adma.202006910 |
|  |  | SnO2/PCBM | 1.353 | 1:3 | 1:3 | 24.31 | 1.150 | 77.03 | 21.53 | 500nm | 10.1002/adma.202006910 |
| 85 | Csx(MA0.17FA0.83)(1-x)Pb(I0.83Br0.17)3 | 5%Cs | 1.351 | 0.926:3 | 1.111:3 | 22.00 | 1.080 | 75.00 | 17.80 | 500nm | 10.3390/coatings11030279 |
|  |  | 10%Cs | 1.351 | 0.926:3 | 1.111:3 | 23.80 | 1.040 | 81.00 | 20.00 | 500nm | 10.3390/coatings11030279 |
|  |  | 15%Cs | 1.351 | 0.926:3 | 1.111:3 | 20.80 | 0.990 | 72.00 | 14.80 | 500nm | 10.3390/coatings11030279 |
| 86 | MAPbI3 | Zno | 1.330 | 1:3 | 1:3 | 14.88 | 1.170 | 75.60 | 13.16 | 300nm | 10.1039/d1ta02697f |
|  |  | Zno-MACL | 1.330 | 1:3 | 1:3 | 15.15 | 1.220 | 80.00 | 14.79 | 300nm | 10.1039/d1ta02697f |
| 87 | Cs0.05FA0.85MA0.10Pb(I0.97Br0.03)3 | TFMBAI/TFP | 1.347 | 0.975:3 | 1.013:3 | 24.96 | 1.161 | 82.10 | 23.79 | 200nm | 10.1021/jacs.0c12802 |
|  |  | Control | 1.347 | 0.975:3 | 1.013:3 | 24.80 | 1.081 | 75.60 | 20.26 | 200nm | 10.1021/jacs.0c12802 |
| 88 | Cs0.1FA0.9PbI2.9Br0.1 | Control | 1.327 | 1:3 | 1:3 | 23.33 | 1.109 | 80.90 | 20.92 | 400nm | 10.1126/sciadv.abj7930 |
|  |  | PEAI | 1.327 | 1:3 | 1:3 | 23.65 | 1.155 | 76.90 | 21.00 | 400nm | 10.1126/sciadv.abj7930 |
|  |  | Cl-PEAI | 1.327 | 1:3 | 1:3 | 23.68 | 1.141 | 83.80 | 22.64 | 400nm | 10.1126/sciadv.abj7930 |
|  |  | F-PEAI | 1.327 | 1:3 | 1:3 | 24.13 | 1.155 | 83.70 | 23.32 | 400nm | 10.1126/sciadv.abj7930 |
| 89 | MAPbI3 | CuPCsolution | 1.330 | 1:3 | 1:3 | 21.41 | 1.090 | 72.00 | 16.80 | 500nm | 10.1002/solr.202000552 |
|  |  | CuPCevaporation | 1.330 | 1:3 | 1:3 | 23.34 | 1.108 | 78.50 | 20.30 | 500nm | 10.1002/solr.202000552 |
| 90 | CsPbI2Br | SnO2 | 0.902 | 1:3 | 1:3 | 14.90 | 1.200 | 73.67 | 13.24 | 1um | 10.1016/j.cej.2020.128053 |
|  |  | SnO2C60-EDA | 0.902 | 1:3 | 1:3 | 15.41 | 1.340 | 80.30 | 16.58 | 1um | 10.1016/j.cej.2020.128053 |
|  |  | SnO2C70-EDA | 0.902 | 1:3 | 1:3 | 15.34 | 1.280 | 79.84 | 15.66 | 1um | 10.1016/j.cej.2020.128053 |
| 91 | FA0.5MA0.5Sn0.5Pb0.5I3 | PEDOTPSS | 1.352 | 1:3 | 1:3 | 26.52 | 0.760 | 75.00 | 15.11 | 500nm | 10.1002/solr.202100287 |
|  |  | NiOx | 1.352 | 1:3 | 1:3 | 28.41 | 0.860 | 78.00 | 18.98 | 500nm | 10.1002/solr.202100287 |
|  |  | NiOx/PFN | 1.352 | 1:3 | 1:3 | 29.50 | 0.880 | 76.00 | 19.80 | 500nm | 10.1002/solr.202100287 |
| 92 | MA0.85FA0.15PbI3 | SnO2 | 1.337 | 0.959:3 | 1.020:3 | 23.07 | 1.060 | 68.93 | 16.89 | 500nm | 10.1016/j.cej.2020.127387 |
|  |  | TA-SnO2 | 1.337 | 0.959:3 | 1.020:3 | 23.55 | 1.080 | 72.49 | 18.44 | 500nm | 10.1016/j.cej.2020.127387 |
|  |  | STA-SnO2 | 1.337 | 0.959:3 | 1.020:3 | 23.90 | 1.100 | 75.21 | 19.86 | 500nm | 10.1016/j.cej.2020.127387 |
|  |  | PSTA-SnO2 | 1.337 | 0.959:3 | 1.020:3 | 24.13 | 1.120 | 76.56 | 20.64 | 500nm | 10.1016/j.cej.2020.127387 |
| 93 | MAPbI3 | Control | 1.330 | 1.031:3 | 0.984:3 | 23.30 | 1.040 | 80.00 | 19.30 | 1um | 10.1039/d1ra02260a |
|  |  | BAI | 1.330 | 1.031:3 | 0.984:3 | 23.00 | 1.070 | 77.00 | 19.00 | 1um | 10.1039/d1ra02260a |
|  |  | BA2PbI4 | 1.330 | 1.031:3 | 0.984:3 | 23.70 | 1.090 | 80.00 | 20.60 | 1um | 10.1039/d1ra02260a |
| 94 | Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3 | CsFAMA | 1.351 | 0.979:3 | 1.010:3 | 22.80 | 1.032 | 76.50 | 18.02 | 1um | 10.1002/solr.202100320 |
|  |  | 4F-PHCl-CsFAMA | 1.351 | 0.979:3 | 1.010:3 | 23.10 | 1.168 | 78.10 | 21.03 | 1um | 10.1002/solr.202100320 |
| 95 | MAPbI3 | 0.05PbBr2 | 1.330 | 1.006:3 | 0.997:3 | 23.30 | 1.140 | 72.60 | 19.30 | 1um | 10.1016/j.apsusc.2021.150464 |
| 96 | Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3 | Control | 1.351 | 0.987:3 | 1.007:3 | 22.84 | 1.110 | 77.40 | 19.62 | 1um | 10.1016/j.mtphys.2021.100543 |
|  |  | CMABr | 1.351 | 0.987:3 | 1.007:3 | 22.97 | 1.160 | 80.13 | 21.35 | 1um | 10.1016/j.mtphys.2021.100543 |
| 97 |  | NiOx | 1.360 | 1.009:3 | 0.995:3 | 21.22 | 1.090 | 78.00 | 18.05 | 200nm | 10.1002/adfm.202106495 |
|  |  | NiOx(PNP):IL | 1.360 | 1.009:3 | 0.995:3 | 22.63 | 1.140 | 81.00 | 20.92 | 200nm | 10.1002/adfm.202106495 |
| 98 | GA2MA4Pb5I16 | Pristine | 1.220 | 1:3 | 1:3 | 20.20 | 1.140 | 68.00 | 15.60 | 300nm | 10.1021/jacs.0c13087 |
|  |  | 5mMGABr | 1.220 | 1:3 | 1:3 | 20.10 | 1.150 | 72.00 | 16.50 | 300nm | 10.1021/jacs.0c13087 |
| 99 | CH3NH3PbI3 | evaporated | 1.330 | 1:3 | 1:3 | 23.02 | 1.085 | 73.00 | 18.30 | 1um | 10.1002/pssr.202000449 |
|  |  | PTAAHTL | 1.330 | 1:3 | 1:3 | 23.11 | 1.090 | 77.00 | 19.40 | 1um | 10.1002/pssr.202000449 |
| 100 | FA0.85MA0.11Cs0.04PbI2.67Br0.33 | SnO2 | 1.355 | 1:3 | 1:3 | 22.69 | 1.140 | 76.00 | 19.66 | 500nm | 10.1002/solr.202100457 |
|  |  | SnO2g-CN | 1.355 | 1:3 | 1:3 | 23.21 | 1.190 | 78.00 | 21.54 | 500nm | 10.1002/solr.202100457 |
| 101 | CsFAMA | Control | 1.316 | 0.984:3 | 1.009:3 | 22.31 | 1.088 | 74.00 | 18.35 | 500nm | 10.1039/d1ee01800k |
|  |  | POSP | 1.316 | 0.984:3 | 1.009:3 | 23.48 | 1.139 | 83.00 | 22.19 | 500nm | 10.1039/d1ee01800k |
| 102 | CsPbIBr2 | SnO2 | 0.913 | 1:3 | 1:3 | 10.40 | 1.200 | 69.80 | 8.70 | 500nm | 10.1002/ente.202100562 |
|  |  | SnO2/PEIE | 0.913 | 1:3 | 1:3 | 11.00 | 1.290 | 78.60 | 11.20 | 500nm | 10.1002/ente.202100562 |
| 103 | (FA0.92MA0.08)0.9Cs0.1Pb(I0.92Br0.08)3 | PPY2 | 1.327 | 1:3 | 1:3 | 23.56 | 1.160 | 82.00 | 22.41 | 1um | 10.1002/advs.202004315 |
|  |  | PTAAHTL | 1.327 | 1:3 | 1:3 | 23.41 | 1.120 | 80.00 | 20.98 | 1um | 10.1002/advs.202004315 |
| 104 | FA0.8GA0.2SnI3 | E1G20 | 1.161 | 0.987:3 | 1.007:3 | 21.70 | 0.540 | 73.70 | 8.70 | 1um | 10.1021/acsenergylett.0c02305 |
|  |  | BA | 1.161 | 0.987:3 | 1.007:3 | 21.70 | 0.570 | 73.10 | 9.10 | 1um | 10.1021/acsenergylett.0c02305 |
|  |  | PEA | 1.161 | 0.987:3 | 1.007:3 | 22.70 | 0.570 | 74.00 | 9.60 | 1um | 10.1021/acsenergylett.0c02305 |
|  |  | AN | 1.161 | 0.987:3 | 1.007:3 | 21.10 | 0.645 | 76.30 | 10.40 | 1um | 10.1021/acsenergylett.0c02305 |
| 105 | FA0.85MA0.15Pb(I0.85Br0.15)3 | Control | 1.375 | 1:3 | 1:3 | 22.79 | 1.109 | 77.00 | 19.36 | 500nm | 10.1002/adma.202006087 |
|  |  | 4mg/mLpolyTPD | 1.375 | 1:3 | 1:3 | 23.30 | 1.167 | 79.00 | 21.37 | 500nm | 10.1002/adma.202006087 |
| 106 | CsPbI3 | Pristine | 0.891 | 1:3 | 1:3 | 20.06 | 1.150 | 79.04 | 18.30 | 2um | 10.1002/adma.202103770 |
|  |  | MS | 0.891 | 1:3 | 1:3 | 20.20 | 1.200 | 81.74 | 19.83 | 2um | 10.1002/adma.202103770 |
| 107 | MAPbI3 | Control | 1.330 | 0.721:3 | 1.143:3 | 23.60 | 1.070 | 80.00 | 20.20 | 500nm | 10.1002/adma.202103231 |
|  |  | IPSG | 1.330 | 0.721:3 | 1.143:3 | 23.60 | 1.170 | 81.00 | 22.40 | 500nm | 10.1002/adma.202103231 |
| 108 | Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3 | Pristine | 1.351 | 0.981:3 | 1.009:3 | 22.81 | 1.060 | 71.68 | 17.33 | 1um | 10.1002/eom2.12146 |
|  |  | 1.0mMPDI | 1.351 | 0.981:3 | 1.009:3 | 23.91 | 1.140 | 78.92 | 21.51 | 1um | 10.1002/eom2.12146 |
| 109 |  | Control | 1.330 | 1:3 | 1:3 | 22.61 | 1.100 | 73.05 | 18.17 | 300nm | 10.1016/j.jpowsour.2021.230549 |
|  |  | 1%EA | 1.330 | 1:3 | 1:3 | 23.21 | 1.132 | 75.26 | 19.76 | 300nm | 10.1016/j.jpowsour.2021.230549 |
|  |  | 2%EA | 1.330 | 1:3 | 1:3 | 23.22 | 1.134 | 77.62 | 20.44 | 300nm | 10.1016/j.jpowsour.2021.230549 |
|  |  | 3%EA | 1.330 | 1:3 | 1:3 | 23.57 | 1.127 | 73.62 | 19.56 | 300nm | 10.1016/j.jpowsour.2021.230549 |
| 110 | CsFAMAPb(I1-xBrx)3 | Control | 1.351 | 1:3 | 1:3 | 23.94 | 1.137 | 73.72 | 20.07 | 1um | 10.1002/smtd.202000441 |
| 111 | Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3 | Pristine | 1.351 | 0.965:3 | 1.018:3 | 22.72 | 1.130 | 76.60 | 19.67 | 500nm | 10.1002/smtd.202101000 |
|  |  | 2mg/mLA-PPG | 1.351 | 0.965:3 | 1.018:3 | 23.20 | 1.180 | 77.09 | 21.10 | 500nm | 10.1002/smtd.202101000 |
|  |  | 4mg/mLA-PPG | 1.351 | 0.965:3 | 1.018:3 | 23.27 | 1.210 | 78.97 | 22.24 | 500nm | 10.1002/smtd.202101000 |
|  |  | 6mg/mLA-PPG | 1.351 | 0.965:3 | 1.018:3 | 22.41 | 1.200 | 76.42 | 20.55 | 500nm | 10.1002/smtd.202101000 |
| 112 | CsPbIBr2 | 0.1wt%ZrSBA-15 | 0.913 | 1:3 | 1:3 | 11.35 | 1.230 | 72.00 | 10.04 | 1um | 10.1002/smsc.202000054 |
| 113 | (CsI)0.04(FAI)0.82(PbI2)0.86(MAPbBr3)0.14 | Control | 1.355 | 0.999:3 | 0.999:3 | 21.31 | 1.051 | 72.50 | 16.24 | 500nm | 10.1016/j.jpowsour.2021.229451 |
|  |  | 0.1mg/mlKPF6 | 1.355 | 0.999:3 | 0.999:3 | 21.72 | 1.078 | 74.80 | 17.51 | 500nm | 10.1016/j.jpowsour.2021.229451 |
|  |  | 0.3mg/mlKPF6 | 1.355 | 0.999:3 | 0.999:3 | 22.26 | 1.089 | 76.60 | 18.57 | 500nm | 10.1016/j.jpowsour.2021.229451 |
|  |  | 0.5mg/mlKPF6 | 1.355 | 0.999:3 | 0.999:3 | 22.70 | 1.102 | 79.80 | 19.96 | 500nm | 10.1016/j.jpowsour.2021.229451 |
|  |  | 0.7mg/mlKPF6 | 1.355 | 0.999:3 | 0.999:3 | 22.21 | 1.076 | 76.00 | 18.16 | 500nm | 10.1016/j.jpowsour.2021.229451 |
|  |  | 1mg/mlKPF6 | 1.355 | 0.999:3 | 0.999:3 | 21.89 | 1.058 | 73.80 | 17.09 | 500nm | 10.1016/j.jpowsour.2021.229451 |
| 114 | MAPbI3 | D/D | 1.330 | 1:3 | 1:3 | 22.28 | 1.083 | 80.69 | 19.47 | 500nm | 10.1002/advs.202102492 |
|  |  | D/T | 1.330 | 1:3 | 1:3 | 22.07 | 1.126 | 80.55 | 20.02 | 500nm | 10.1002/advs.202102492 |
| 115 | Cs0.05(FA0.92MA0.08)0.95Pb(I0.92Br0.08)3 | w/oJY16 | 1.351 | 1.05:3 | 1:3 | 23.03 | 1.110 | 74.13 | 18.95 | 500nm | 10.1002/advs.202205127 |
|  |  | 0.0001mg/mLJY16 | 1.351 | 1.05:3 | 1:3 | 23.56 | 1.140 | 75.93 | 20.39 | 500nm | 10.1002/advs.202205127 |
|  |  | 0.0005mg/mLJY16 | 1.351 | 1.05:3 | 1:3 | 23.35 | 1.120 | 74.62 | 19.51 | 500nm | 10.1002/advs.202205127 |
|  |  | 0.001mg/mLJY16 | 1.351 | 1.05:3 | 1:3 | 22.72 | 1.100 | 73.57 | 18.39 | 500nm | 10.1002/advs.202205127 |
| 116 | MAPbI3 | Powder | 1.330 | 1:3 | 1:3 | 22.00 | 1.010 | 78.00 | 17.29 | 1um | 10.1016/j.orgel.2023.106763 |
|  |  | SC | 1.330 | 1:3 | 1:3 | 22.47 | 1.030 | 79.00 | 18.27 | 1um | 10.1016/j.orgel.2023.106763 |
| 117 | Cs0.05(FA0.98MA0.02)0.95Pb(I0.98Br0.02)3 | Control | 1.350 | 1:3 | 1:3 | 24.95 | 1.100 | 76.38 | 20.96 | 1um | 10.1002/adma.202206387 |
|  |  | PEAAc | 1.350 | 1:3 | 1:3 | 24.77 | 1.158 | 80.42 | 23.07 | 1um | 10.1002/adma.202206387 |
|  |  | BEAAc | 1.350 | 1:3 | 1:3 | 24.52 | 1.135 | 78.45 | 21.83 | 1um | 10.1002/adma.202206387 |
|  |  | PenAAc | 1.350 | 1:3 | 1:3 | 24.60 | 1.171 | 82.02 | 23.62 | 1um | 10.1002/adma.202206387 |
| 118 | Cs0.05Rb0.05(FA0.83MA0.17)0.90Pb(I0.95Br0.05)3 | Control | 1.351 | 0.985:3 | 1.008:3 | 24.78 | 1.110 | 81.98 | 24.78 | 1um | 10.1016/j.cej.2023.142047 |
|  |  | m-CeOx | 1.351 | 0.985:3 | 1.008:3 | 24.98 | 1.120 | 82.53 | 23.15 | 1um | 10.1016/j.cej.2023.142047 |
| 119 | Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3 | Pristine | 1.351 | 0.974:3 | 1.013:3 | 22.38 | 1.187 | 73.37 | 19.49 | 500nm | 10.1002/adfm.202214102 |
|  |  | Control | 1.351 | 0.974:3 | 1.013:3 | 22.59 | 1.213 | 76.73 | 21.03 | 500nm | 10.1002/adfm.202214102 |
|  |  | GPD0.01 | 1.351 | 0.974:3 | 1.013:3 | 22.56 | 1.124 | 76.94 | 21.07 | 500nm | 10.1002/adfm.202214102 |
|  |  | GPD0.03 | 1.351 | 0.974:3 | 1.013:3 | 22.98 | 1.225 | 77.54 | 21.83 | 500nm | 10.1002/adfm.202214102 |
|  |  | GPD0.05 | 1.351 | 0.974:3 | 1.013:3 | 23.31 | 1.236 | 78.46 | 22.61 | 500nm | 10.1002/adfm.202214102 |
|  |  | GPD0.08 | 1.351 | 0.974:3 | 1.013:3 | 23.16 | 1.224 | 78.13 | 22.15 | 500nm | 10.1002/adfm.202214102 |
| 120 | [(FAPbI3)0.87(MAPbBr3)0.13]0.92[CsPbI3]0.08 | Pristine | 1.336 | 1.014:3 | 0.993:3 | 24.13 | 1.100 | 67.60 | 17.82 | 500nm | 10.1016/j.jpowsour.2022.232368 |
|  |  | 2.67mJCM-2laserenergydensities | 1.336 | 1.014:3 | 0.993:3 | 24.03 | 1.104 | 69.80 | 18.52 | 500nm | 10.1016/j.jpowsour.2022.232368 |
|  |  | 5.33mJCM-2laserenergydensities | 1.336 | 1.014:3 | 0.993:3 | 24.22 | 1.122 | 72.60 | 19.72 | 500nm | 10.1016/j.jpowsour.2022.232368 |
| 121 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 22.40 | 1.060 | 76.00 | 18.02 | 200nm | 10.1016/j.physb.2022.414591 |
|  |  | 1.5%SCN- | 1.330 | 1:3 | 1:3 | 22.70 | 1.080 | 76.80 | 18.83 | 200nm | 10.1016/j.physb.2022.414591 |
|  |  | 3%SCN- | 1.330 | 1:3 | 1:3 | 23.10 | 1.120 | 78.90 | 20.41 | 200nm | 10.1016/j.physb.2022.414591 |
|  |  | 4.5%SCN- | 1.330 | 1:3 | 1:3 | 22.80 | 1.090 | 77.30 | 19.21 | 200nm | 10.1016/j.physb.2022.414591 |
| 122 | Cs0.05(FA0.83MA0.17)0.95Pb1-xZnx(I0.83Br0.17)3 | Control | 1.420 | 1.326:3 | 0.837:3 | 22.25 | 0.956 | 67.93 | 14.45 | 500nm | 10.1016/j.jallcom.2022.167445 |
|  |  | 0.5mol%Zn | 1.420 | 1.326:3 | 0.837:3 | 22.28 | 0.998 | 70.38 | 15.64 | 500nm | 10.1016/j.jallcom.2022.167445 |
|  |  | 1mol%Zn | 1.420 | 1.326:3 | 0.837:3 | 22.22 | 0.927 | 70.63 | 14.54 | 500nm | 10.1016/j.jallcom.2022.167445 |
| 123 | (MAPbI3)0.6(FASnI3)0.4 | Control | 1.348 | 0.998:3 | 1.001:3 | 25.25 | 0.760 | 76.00 | 14.78 | 1um | 10.1016/j.solmat.2023.112283 |
|  |  | 1.5%PyAI | 1.348 | 0.998:3 | 1.001:3 | 28.68 | 0.800 | 73.00 | 16.75 | 1um | 10.1016/j.solmat.2023.112283 |
| 124 | MAPbI3 | Control | 1.330 | 1.360:3 | 0.823:3 | 25.15 | 1.120 | 78.39 | 22.08 | 500nm | 10.1016/j.cej.2023.142449 |
|  |  | TTPA | 1.330 | 1.360:3 | 0.823:3 | 25.03 | 1.080 | 77.69 | 21.08 | 500nm | 10.1016/j.cej.2023.142449 |
|  |  | TTPB | 1.330 | 1.360:3 | 0.823:3 | 25.25 | 1.150 | 81.50 | 23.67 | 500nm | 10.1016/j.cej.2023.142449 |
| 125 | MAPbI3 | CB-PSK | 1.330 | 0.2282:3 | 1.386:3 | 22.58 | 1.060 | 74.76 | 18.12 | 200nm | 10.1016/j.orgel.2022.106709 |
|  |  | DEC-PSK | 1.330 | 0.2282:3 | 1.386:3 | 23.08 | 1.090 | 76.16 | 19.16 | 200nm | 10.1016/j.orgel.2022.106709 |
| 126 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 21.94 | 1.020 | 76.05 | 16.96 | 2um | 10.1016/j.apsusc.2022.155269Re |
|  |  | GEECl | 1.330 | 1:3 | 1:3 | 23.26 | 1.060 | 77.63 | 19.21 | 2um | 10.1016/j.apsusc.2022.155269Re |
| 127 | MAPbI3 | 1.0CPIC | 1.330 | 1:3 | 1:3 | 22.37 | 1.052 | 72.69 | 17.10 | 500nm | 10.1016/j.synthmet.2022.117276 |
| 128 | FAPbI3 | Pristine | 1.374 | 1:3 | 1:3 | 23.20 | 1.120 | 71.69 | 18.59 | 500nm | 10.1016/j.solmat.2022.112088 |
|  |  | 0.1GSHSnO2 | 1.374 | 1:3 | 1:3 | 23.72 | 1.190 | 73.30 | 20.71 | 500nm | 10.1016/j.solmat.2022.112088 |
| 129 | (Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3) | Pristine | 1.351 | 1:3 | 1:3 | 23.67 | 1.065 | 74.25 | 18.70 | 1um | 10.1016/j.solmat.2022.112135 |
| 130 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 23.37 | 1.100 | 77.74 | 19.95 | 200nm | 10.1016/j.mssp.2022.107130 |
|  |  | EAA | 1.330 | 1:3 | 1:3 | 23.93 | 1.150 | 80.39 | 22.08 | 200nm | 10.1016/j.mssp.2022.107130 |
| 131 | CsFAMA | NIOx | 1.351 | 1.253:3 | 1.038:3 | 22.15 | 1.049 | 74.37 | 17.28 | 1um | 10.1016/j.mtener.2023.101245 |
|  |  | Tbp:NIOx | 1.351 | 1.253:3 | 1.038:3 | 23.58 | 1.096 | 76.75 | 19.83 | 1um | 10.1016/j.mtener.2023.101245 |
|  |  | tBP:NIOx/LiF | 1.351 | 1.253:3 | 1.038:3 | 23.06 | 1.070 | 78.59 | 19.39 | 1um | 10.1016/j.mtener.2023.101245 |
| 132 | Cs0.05(MA0.15FA0.85)0.95Pb(I0.85Br0.15)3 | Pristine | 1.351 | 0.976:3 | 1.012:3 | 22.69 | 1.090 | 73.01 | 18.06 | 300nm | 10.1016/j.cej.2022.138800 |
|  |  | PEACl-SnO2 | 1.351 | 0.976:3 | 1.012:3 | 23.11 | 1.128 | 75.56 | 19.70 | 300nm | 10.1016/j.cej.2022.138800 |
|  |  | PEACl-SnO2-NPB | 1.351 | 0.976:3 | 1.012:3 | 23.48 | 1.160 | 78.31 | 21.33 | 300nm | 10.1016/j.cej.2022.138800 |
| 133 | MAPbI3 | MAPbI3 | 1.330 | 1:3 | 1:3 | 20.42 | 1.090 | 78.00 | 17.36 | 100nm | 10.1016/j.cej.2022.140160 |
|  |  | CH3NH3PbI3:In(tu)3Cl3 | 1.330 | 1:3 | 1:3 | 23.70 | 1.120 | 79.00 | 21.25 | 100nm | 10.1016/j.cej.2022.140160 |
| 134 | (Cs0.05FA0.9MA0.05PbI2.55Br0.45) | TiO2NRs | 1.355 | 1:3 | 1:3 | 22.00 | 1.110 | 77.00 | 18.90 | 500nm | 10.1002/adfm.202005155 |
|  |  | TCA-TiO2NRs | 1.355 | 1:3 | 1:3 | 22.60 | 1.120 | 80.00 | 20.20 | 500nm | 10.1002/adfm.202005155 |
| 135 | (FASnI3)0.6(MAPbI3)0.4 | CuI | 1.357 | 1.002:3 | 1.054:3 | 27.00 | 0.660 | 73.50 | 13.10 | 1um | 10.1016/j.solmat.2019.110351 |
|  |  | PEDOT:PSS | 1.357 | 1.002:3 | 1.054:3 | 25.90 | 0.740 | 69.20 | 13.26 | 1um | 10.1016/j.solmat.2019.110351 |
|  |  | PEDOT:PSS/CuI | 1.357 | 1.002:3 | 1.054:3 | 27.50 | 0.680 | 71.00 | 13.27 | 1um | 10.1016/j.solmat.2019.110351 |
|  |  | CuI/PEDOT:PSS | 1.357 | 1.002:3 | 1.054:3 | 27.70 | 0.710 | 73.80 | 14.51 | 1um | 10.1016/j.solmat.2019.110351 |
| 136 | Cs0.05FA0.79MA0.16Pb(I0.83Br0.17)3 | Control | 1.351 | 0.974:3 | 1.013:3 | 22.09 | 1.110 | 67.49 | 16.55 | 200nm | 10.1016/j.solmat.2020.110527 |
|  |  | TOPO | 1.351 | 0.974:3 | 1.013:3 | 21.42 | 1.100 | 68.82 | 16.19 | 200nm | 10.1016/j.solmat.2020.110527 |
|  |  | TPPO | 1.351 | 0.974:3 | 1.013:3 | 22.44 | 1.110 | 71.17 | 17.64 | 200nm | 10.1016/j.solmat.2020.110527 |
| 137 | Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3 | Pristine | 1.351 | 0.974:3 | 1.013:3 | 22.18 | 1.160 | 70.50 | 18.10 | 500nm | 10.1016/j.cej.2020.126152 |
|  |  | P3HTpassivated | 1.351 | 0.974:3 | 1.013:3 | 22.20 | 1.180 | 76.20 | 20.00 | 500nm | 10.1016/j.cej.2020.126152 |
| 138 | MAPbBr3 | Control | 1.378 | 1:3 | 1:3 | 22.82 | 1.130 | 74.30 | 19.09 | 500nm | 10.1016/j.nanoen.2019.104189 |
| 139 | (Cs0.17FA0.83)Pb(I0.97−xBrxCl0.03)3 | x=0 | 1.300 | 1:3 | 1:3 | 23.84 | 1.060 | 72.96 | 18.41 | 1um | 10.1002/adma.201905502 |
|  |  | x=0.05 | 1.300 | 1:3 | 1:3 | 23.60 | 1.090 | 75.10 | 19.26 | 1um | 10.1002/adma.201905502 |
|  |  | x=0.1 | 1.301 | 1:3 | 1:3 | 23.39 | 1.110 | 76.82 | 19.98 | 1um | 10.1002/adma.201905502 |
|  |  | x=0.15 | 1.303 | 1:3 | 1:3 | 23.28 | 1.120 | 78.33 | 20.50 | 1um | 10.1002/adma.201905502 |
|  |  | x=0.2 | 1.305 | 1:3 | 1:3 | 22.77 | 1.130 | 77.21 | 19.88 | 1um | 10.1002/adma.201905502 |
|  | Cs0.08FA0.8MA0.12)Pb(I0.88Br0.12)3 |  | 1.336 | 0.977:3 | 1.011:3 | 23.32 | 1.090 | 76.80 | 19.51 | 1um | 10.1002/adma.201905502 |
| 140 | MAPbI3 | 0soxygenplasma | 1.330 | 1:3 | 1:3 | 17.06 | 0.870 | 68.89 | 10.24 | 500nm | 10.1016/j.vacuum.2022.111675 |
|  |  | 10soxygenplasma | 1.330 | 1:3 | 1:3 | 20.54 | 0.900 | 77.01 | 14.23 | 500nm | 10.1016/j.vacuum.2022.111675 |
| 141 | MAPbI3 | w/oMoS2 | 1.330 | 1.5:3 | 0.75:3 | 20.03 | 0.970 | 75.83 | 14.73 | 500nm | 10.1016/j.solener.2019.11.030 |
|  |  | w/MoS2 | 1.330 | 1.5:3 | 0.75:3 | 20.98 | 0.990 | 76.02 | 15.78 | 500nm | 10.1016/j.solener.2019.11.030 |
| 142 | Cs0.05FA0.80MA0.15Pb(I0.85Br0.15)3 | AC0 | 1.351 | 1:3 | 1:3 | 22.90 | 1.108 | 75.30 | 19.10 | 500nm | 10.1002/advs.201903368 |
|  |  | AC2 | 1.351 | 1:3 | 1:3 | 22.90 | 1.146 | 75.10 | 19.70 | 500nm | 10.1002/advs.201903368 |
|  |  | AC5 | 1.351 | 1:3 | 1:3 | 23.20 | 1.150 | 75.60 | 20.20 | 500nm | 10.1002/advs.201903368 |
|  |  | AC8 | 1.351 | 1:3 | 1:3 | 23.40 | 1.162 | 78.40 | 21.30 | 500nm | 10.1002/advs.201903368 |
|  |  | AC10 | 1.351 | 1:3 | 1:3 | 22.70 | 1.123 | 73.10 | 18.60 | 500nm | 10.1002/advs.201903368 |
| 143 | CsPbBr3 | 60°Cannealingtemperatures | 0.923 | 1:3 | 1:3 | 7.20 | 1.400 | 68.00 | 6.85 | 500nm | 10.1016/j.solener.2020.10.045 |
|  |  | 80°Cannealingtemperatures | 0.923 | 1:3 | 1:3 | 7.80 | 1.410 | 70.00 | 7.69 | 500nm | 10.1016/j.solener.2020.10.045 |
|  |  | 100°Cannealingtemperatures | 0.923 | 1:3 | 1:3 | 8.22 | 1.470 | 83.00 | 10.02 | 500nm | 10.1016/j.solener.2020.10.045 |
|  |  | 120°Cannealingtemperatures | 0.923 | 1:3 | 1:3 | 8.02 | 1.460 | 80.00 | 9.36 | 500nm | 10.1016/j.solener.2020.10.045 |
| 144 | Cs0.05(MA0.15FA0.85)0.95Pb(I0.85Br0.15)3 | SnO2 | 1.351 | 1.033:3 | 0.984:3 | 22.57 | 1.132 | 75.00 | 19.26 | 1um | 10.1016/j.solener.2020.02.025 |
|  |  | CsFSnO2 | 1.351 | 1.033:3 | 0.984:3 | 23.18 | 1.161 | 76.00 | 20.48 | 1um | 10.1016/j.solener.2020.02.025 |
| 145 | (FA1-xEAx)0.98EDA0.01SnI3 | EA0 | 0.845 | 1:3 | 1:3 | 23.38 | 0.560 | 70.00 | 9.20 | 1um | 10.1016/j.nanoen.2020.104858 |
|  |  | EA0.05 | 0.845 | 1:3 | 1:3 | 23.41 | 0.590 | 71.00 | 9.86 | 1um | 10.1016/j.nanoen.2020.104858 |
|  |  | EA0.1 | 0.845 | 1:3 | 1:3 | 23.05 | 0.620 | 75.00 | 10.80 | 1um | 10.1016/j.nanoen.2020.104858 |
| 146 | MAPbI3 | EA | 1.330 | 0.964:3 | 1.018:3 | 21.38 | 1.107 | 69.67 | 16.49 | 1um | 10.1016/j.cej.2019.122298 |
| 147 | MAPbI3 | DMF/DMSO | 1.330 | 1:3 | 1:3 | 21.07 | 1.030 | 74.00 | 16.60 | 500nm | 10.1016/j.orgel.2019.105552 |
|  |  | GBL/DMSO | 1.330 | 1:3 | 1:3 | 22.20 | 1.050 | 76.00 | 17.70 | 500nm | 10.1016/j.orgel.2019.105552 |
| 148 | CH3NH3PbI3 | s-ZTO | 1.330 | 1:3 | 1:3 | 20.46 | 1.030 | 67.00 | 14.02 | 500nm | 10.1016/j.nanoen.2020.104620 |
|  |  | p-ZTO | 1.330 | 1:3 | 1:3 | 22.55 | 1.050 | 72.00 | 17.14 | 500nm | 10.1016/j.nanoen.2020.104620 |
| 149 | Cs0.05(MA0.15FA0.85)0.95Pb(Br0.15I0.85)3 | BareZSO | 1.351 | 1.033:3 | 0.984:3 | 23.19 | 1.090 | 76.00 | 19.30 | 500nm | 10.1016/j.nanoen.2020.105038 |
|  |  | CBD | 1.351 | 1.033:3 | 0.984:3 | 23.59 | 1.140 | 79.00 | 21.30 | 500nm | 10.1016/j.nanoen.2020.105038 |
| 150 | MAPbI3 | Pristine | 1.330 | 1.033:3 | 0.984:3 | 23.39 | 1.109 | 75.00 | 19.46 | 1um | 10.1016/j.nanoen.2020.105127 |
|  |  | 3MmMBIm | 1.330 | 1.033:3 | 0.984:3 | 23.41 | 1.195 | 77.00 | 21.57 | 1um | 10.1016/j.nanoen.2020.105127 |
| 151 | MAPbI3 | TiO2 | 1.330 | 1:3 | 1:3 | 22.18 | 1.050 | 72.00 | 17.40 | 200nm | 10.1002/adma.201905661 |
|  |  | TiO2-Poly(TA) | 1.330 | 1:3 | 1:3 | 23.32 | 1.080 | 74.00 | 18.60 | 200nm | 10.1002/adma.201905661 |
| 152 | CH3NH3PbI3 | Np-SnO2spin | 1.330 | 1:3 | 1:3 | 15.25 | 0.772 | 72.20 | 10.62 | 300nm | 10.1002/ente.201901284 |
|  |  | Np-SnO2spray | 1.330 | 1:3 | 1:3 | 14.60 | 0.702 | 73.10 | 9.37 | 300nm | 10.1002/ente.201901284 |
| 153 | MAPbI3 | 0hAgingtime | 1.330 | 1:3 | 1:3 | 19.78 | 1.070 | 78.00 | 16.68 | 300nm | 10.1002/smtd.201900398 |
|  |  | 1.5h | 1.330 | 1:3 | 1:3 | 21.01 | 1.090 | 75.00 | 17.10 | 300nm | 10.1002/smtd.201900398 |
|  |  | 3h | 1.330 | 1:3 | 1:3 | 20.97 | 1.020 | 65.00 | 14.07 | 300nm | 10.1002/smtd.201900398 |
| 154 | (GCl)x(CsMAFA)Pb(I0.87Br0.13)3 | Control | 1.352 | 1:3 | 1:3 | 22.04 | 1.120 | 77.80 | 19.40 | 100nm | 10.1002/solr.201900234 |
|  |  | 2.5%GCL | 1.352 | 1:3 | 1:3 | 21.61 | 1.124 | 72.90 | 17.90 | 100nm | 10.1002/solr.201900234 |
|  |  | 5%GCL | 1.352 | 1:3 | 1:3 | 20.85 | 1.124 | 71.40 | 16.90 | 100nm | 10.1002/solr.201900234 |
|  |  | 7.5%GCL | 1.352 | 1:3 | 1:3 | 20.34 | 1.151 | 70.90 | 16.80 | 100nm | 10.1002/solr.201900234 |
|  |  | 10%GCL | 1.352 | 1:3 | 1:3 | 19.77 | 1.160 | 65.20 | 15.10 | 100nm | 10.1002/solr.201900234 |
| 155 | Cs0.05FA0.8MA0.15Pb(I0.85Br0.15)3 | Pristine | 1.351 | 1:3 | 1:3 | 22.55 | 1.060 | 75.00 | 18.06 | 200nm | 10.1002/solr.202000647 |
|  |  | CME-4 | 1.351 | 1:3 | 1:3 | 23.45 | 1.110 | 77.00 | 20.33 | 200nm | 10.1002/solr.202000647 |
| 156 | MAPbI3 | 0mol%NH4SCN | 1.330 | 1:3 | 1:3 | 20.75 | 1.017 | 72.99 | 15.67 | 1um | 10.1016/j.solener.2020.01.069 |
|  |  | 15mol%NH4SCN | 1.330 | 1:3 | 1:3 | 22.64 | 1.057 | 78.37 | 18.75 | 1um | 10.1016/j.solener.2020.01.069 |
| 157 | CsPbBr3 | TiO2 | 0.923 | 1:3 | 1:3 | 21.19 | 1.111 | 76.37 | 17.98 | 500nm | 10.1016/j.solener.2020.01.048 |
|  |  | Ce-dopedTiO2 | 0.923 | 1:3 | 1:3 | 22.26 | 1.112 | 78.13 | 19.34 | 500nm | 10.1016/j.solener.2020.01.048 |
| 158 | CsI0.05[(FAPbI3)0.85(MAPbBr3)0.15]0.95 | TiO2 | 1.420 | 0.964:3 | 1.018:3 | 21.94 | 1.080 | 72.00 | 17.17 | 1um | 10.1016/j.jpowsour.2019.227504 |
|  |  | TiO2/CaTiO3 | 1.420 | 0.964:3 | 1.018:3 | 23.08 | 1.090 | 76.00 | 19.12 | 1um | 10.1016/j.jpowsour.2019.227504 |
| 159 | MAPbI3 | MAPbI3 | 1.330 | 0.997:3 | 1.002:3 | 19.51 | 0.984 | 72.83 | 13.82 | 1um | 10.1016/j.solmat.2020.110553 |
|  |  | Im-MAPbI3 | 1.330 | 0.997:3 | 1.002:3 | 20.07 | 0.995 | 79.99 | 16.03 | 1um | 10.1016/j.solmat.2020.110553 |
| 160 | MAPbI3 | tBP8μmol | 1.330 | 1:3 | 1:3 | 23.68 | 1.010 | 71.49 | 17.07 | 500nm | 10.1016/j.solmat.2020.110625 |
|  |  | tBP17μmol | 1.330 | 1:3 | 1:3 | 24.26 | 1.000 | 70.89 | 17.14 | 500nm | 10.1016/j.solmat.2020.110625 |
| 161 | (FAPbI3)0.85(MAPbBr3)0.15 | DP | 1.378 | 1:3 | 1:3 | 23.10 | 1.100 | 75.60 | 19.10 | 500nm | 10.1002/solr.201900463 |
|  |  | SP | 1.378 | 1:3 | 1:3 | 23.50 | 1.090 | 73.77 | 18.90 | 500nm | 10.1002/solr.201900463 |
| 162 | FA0.95Cs0.05PbI3 | Pristine | 1.350 | 1:3 | 1:3 | 24.21 | 1.010 | 78.20 | 19.10 | 1um | 10.1002/adma.202000571 |
|  |  | GAI-doped | 1.350 | 1:3 | 1:3 | 24.56 | 1.040 | 78.60 | 20.02 | 1um | 10.1002/adma.202000571 |
|  |  | β-GUA-doped | 1.350 | 1:3 | 1:3 | 24.41 | 1.140 | 79.60 | 22.20 | 1um | 10.1002/adma.202000571 |
| 163 | MAPbI3 | 2.5wt%F8BT | 1.330 | 1:3 | 1:3 | 21.27 | 0.980 | 71.70 | 14.88 | 1um | 10.1002/ente.201901042 |
| 164 |  | Control | 1.420 | 0.983:3 | 1.008:3 | 22.14 | 1.120 | 74.52 | 18.59 | 500nm | 10.1002/ente.201901017 |
|  |  | 0.1MNH4F | 1.420 | 0.983:3 | 1.008:3 | 22.66 | 1.140 | 78.49 | 20.47 | 500nm | 10.1002/ente.201901017 |
| 165 | (FA0.83MA0.17)0.95Cs0.05Pb(I0.9Br0.1)3 | SNO | 1.348 | 1:3 | 1:3 | 22.95 | 1.024 | 73.49 | 17.28 | 1um | 10.1016/j.nanoen.2020.105183 |
|  |  | BTO | 1.348 | 1:3 | 1:3 | 23.29 | 1.095 | 76.81 | 19.58 | 1um | 10.1016/j.nanoen.2020.105183 |
|  |  | BTOSc-5 | 1.348 | 1:3 | 1:3 | 23.61 | 1.135 | 78.16 | 20.94 | 1um | 10.1016/j.nanoen.2020.105183 |
| 166 | CsxMA1-xPbI3 | X=0Cscontent | 1.330 | 1:3 | 1:3 | 21.58 | 0.967 | 67.37 | 14.06 | 1um | 10.1016/j.orgel.2020.105710 |
|  |  | x=0.03 | 1.317 | 1:3 | 1:3 | 22.02 | 1.004 | 71.29 | 15.75 | 1um | 10.1016/j.orgel.2020.105710 |
|  |  | x=0.05 | 1.308 | 1:3 | 1:3 | 22.59 | 1.030 | 73.71 | 17.15 | 1um | 10.1016/j.orgel.2020.105710 |
|  |  | x=0.07 | 1.299 | 1:3 | 1:3 | 22.21 | 1.010 | 71.41 | 16.02 | 1um | 10.1016/j.orgel.2020.105710 |
|  |  | x=0.1 | 1.299 | 1:3 | 1:3 | 21.82 | 0.990 | 70.53 | 15.23 | 1um | 10.1016/j.orgel.2020.105710 |
| 167 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 19.71 | 0.840 | 76.10 | 12.60 | 500nm | 10.1016/j.orgel.2020.105937 |
|  |  | KF | 1.330 | 1:3 | 1:3 | 22.69 | 0.870 | 82.10 | 16.21 | 500nm | 10.1016/j.orgel.2020.105937 |
|  |  | RbF | 1.330 | 1:3 | 1:3 | 21.61 | 0.540 | 81.90 | 14.87 | 500nm | 10.1016/j.orgel.2020.105937 |
|  |  | CsF | 1.330 | 1:3 | 1:3 | 20.86 | 0.830 | 80.50 | 13.94 | 500nm | 10.1016/j.orgel.2020.105937 |
| 168 | MAPbI3 | NonePFNDI | 1.330 | 1:3 | 1:3 | 21.12 | 1.068 | 77.19 | 17.41 | 1um | 10.1016/j.orgel.2020.105959 |
| 169 | CsMAFAPbIBr | Control | 1.321 | 1:3 | 1:3 | 21.88 | 1.158 | 75.21 | 19.06 | 300nm | 10.1016/j.orgel.2020.105982 |
|  |  | Fmoc-5-AVA | 1.321 | 1:3 | 1:3 | 22.94 | 1.179 | 78.42 | 21.21 | 300nm | 10.1016/j.orgel.2020.105982 |
| 170 | CH3NH3PbI3-xClx | 1.0wt%PVDF | 1.330 | 1:3 | 1:3 | 24.75 | 1.010 | 68.00 | 16.51 | 500nm | 10.1016/j.solmat.2019.110318 |
| 171 | MAPbI3 | 0.025M-CuI | 1.330 | 1:3 | 1:3 | 16.55 | 0.930 | 72.00 | 11.10 | 1um | 10.1016/j.solmat.2020.110486 |
|  |  | 0.05M-CuI | 1.330 | 1:3 | 1:3 | 19.39 | 0.990 | 74.00 | 14.21 | 1um | 10.1016/j.solmat.2020.110486 |
|  |  | 0.1M-CuI | 1.330 | 1:3 | 1:3 | 14.04 | 0.840 | 73.00 | 8.83 | 1um | 10.1016/j.solmat.2020.110486 |
| 172 | MAPbI3 | CB-PSK | 1.330 | 1:3 | 1:3 | 19.50 | 1.010 | 74.00 | 14.80 | 200nm | 10.1016/j.cej.2019.123966 |
|  |  | TEOC-PSK | 1.330 | 1:3 | 1:3 | 21.11 | 1.040 | 75.00 | 16.74 | 200nm | 10.1016/j.cej.2019.123966 |
| 173 | FASnI3 | FASnI3 | 1.374 | 1:3 | 1:3 | 19.41 | 0.538 | 66.40 | 6.93 | 1um | 10.1016/j.joule.2020.03.007 |
| 174 | (CsPbI3)0.05(FA0.85MA0.15Pb(I0.85Br0.15)3)0.95 | Control | 1.422 | 1:3 | 1:3 | 22.66 | 1.120 | 79.15 | 20.09 | 500nm | 10.1016/j.joule.2020.04.001 |
|  |  | PEAL | 1.422 | 1:3 | 1:3 | 22.53 | 1.200 | 80.04 | 21.64 | 500nm | 10.1016/j.joule.2020.04.001 |
|  |  | BDAI | 1.422 | 1:3 | 1:3 | 22.59 | 1.210 | 81.63 | 22.31 | 500nm | 10.1016/j.joule.2020.04.001 |
|  |  | GAI | 1.422 | 1:3 | 1:3 | 22.65 | 1.150 | 78.99 | 20.57 | 500nm | 10.1016/j.joule.2020.04.001 |
| 175 | Cs0.15MA0.15FA0.70Pb(I0.80Br0.20)3 | Control | 1.304 | 1:3 | 1:3 | 19.60 | 1.760 | 73.80 | 25.40 | 1um | 10.1016/j.joule.2021.05.013 |
| 176 | Rb0.05Cs0.05MA0.15FA0.75Pb1.05(I0.95Br0.05)3 | HP | 1.351 | 1:3 | 1:3 | 24.57 | 1.110 | 74.78 | 20.45 | 1um | 10.1016/j.joule.2021.04.003 |
|  |  | H3ppHP | 1.351 | 1:3 | 1:3 | 24.42 | 1.110 | 77.86 | 21.22 | 1um | 10.1016/j.joule.2021.04.003 |
| 177 | CsFAMA | SnO2 | 1.317 | 0.964:3 | 1.017:3 | 22.75 | 1.140 | 71.47 | 18.53 | 500nm | 10.1016/j.jechem.2021.07.011 |
|  |  | SnO2/K2SO4 | 1.317 | 0.964:3 | 1.017:3 | 22.85 | 1.190 | 76.00 | 20.73 | 500nm | 10.1016/j.jechem.2021.07.011 |
| 178 | Cs0.12FA0.83MA0.05Pb(I0.6Br0.4)3 | Control | 1.333 | 1:3 | 1:3 | 16.12 | 1.180 | 70.16 | 13.26 | 500nm | 10.1016/j.jechem.2021.07.031 |
| 179 | Cs0.05FA0.88MA0.07PbI3 | SnO2 | 1.347 | 1:3 | 1:3 | 24.71 | 1.111 | 69.10 | 18.96 | 500nm | 10.1016/j.nanoen.2021.106455 |
|  |  | SnO2-Nb2C | 1.347 | 1:3 | 1:3 | 25.29 | 1.138 | 79.50 | 22.86 | 500nm | 10.1016/j.nanoen.2021.106455 |
| 180 | Cs0.1MA0.9PbI2.95Cl0.05 | C60 | 1.289 | 1:3 | 1:3 | 21.32 | 1..08 | 74.46 | 17.15 | 500nm | 10.1021/acsaem.1c00226 |
|  |  | c-TiO2 | 1.289 | 1:3 | 1:3 | 23.13 | 0.860 | 76.01 | 20.15 | 500nm | 10.1021/acsaem.1c00226 |
|  |  | c-TiO2/C60 | 1.289 | 1:3 | 1:3 | 19.93 | 1.080 | 67.61 | 14.53 | 500nm | 10.1021/acsaem.1c00226 |
| 181 | (PEA)2(MA)2Pb3I10 | PEABr | 1.330 | 1:3 | 1:3 | 23.42 | 1.080 | 77.82 | 19.46 | 500nm | 10.1016/j.solener.2020.05.042 |
| 182 | CH3NH3PbI3 | MAPI | 1.330 | 1:3 | 1:3 | 21.67 | 1.058 | 73.30 | 16.13 | 300nm | 10.1021/acs.chemmater.1c01675 |
|  |  | 0.5SANcoat | 1.330 | 1:3 | 1:3 | 23.14 | 1.066 | 69.00 | 16.62 | 300nm | 10.1021/acs.chemmater.1c01675 |
|  |  | 1SANcoat | 1.330 | 1:3 | 1:3 | 23.07 | 1.074 | 71.50 | 17.41 | 300nm | 10.1021/acs.chemmater.1c01675 |
| 183 | Cs0.175MA0.075FA0.75PbI2.92Br0.08 | Control | 1.288 | 1.286:3 | 0.857:3 | 23.71 | 1.015 | 73.89 | 17.78 | 1um | 10.1021/acsaem.0c03068 |
|  |  | Thymine | 1.288 | 1.286:3 | 0.857:3 | 24.07 | 1.024 | 78.96 | 19.46 | 1um | 10.1021/acsaem.0c03068 |
| 184 | Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3 | D0 | 1.351 | 0.964:3 | 1.018:3 | 21.12 | 1.060 | 77.48 | 17.30 | 500nm | 10.1016/j.cej.2021.130078 |
|  |  | D1 | 1.351 | 0.964:3 | 1.018:3 | 21.42 | 1.060 | 80.66 | 18.28 | 500nm | 10.1016/j.cej.2021.130078 |
|  |  | D5 | 1.351 | 0.964:3 | 1.018:3 | 20.97 | 1.040 | 77.44 | 16.92 | 500nm | 10.1016/j.cej.2021.130078 |
| 185 | Cs0.05(MA0.15FA0.85)0.95Pb(I0.85Br0.15)3 | DC-SnO2 | 1.351 | 0.984:3 | 0.938:3 | 22.57 | 1.134 | 76.94 | 19.69 | 1um | 10.1016/j.cej.2021.131444 |
|  |  | DC-SnO2-MSA | 1.351 | 0.984:3 | 0.938:3 | 22.95 | 1.144 | 80.90 | 21.24 | 1um | 10.1016/j.cej.2021.131444 |
| 186 | MAPbI3 | CB | 1.330 | 1:3 | 1:3 | 22.22 | 1.060 | 76.00 | 18.09 | 1um | 10.1016/j.cej.2021.131475 |
|  |  | MeTHF | 1.330 | 1:3 | 1:3 | 22.42 | 1.050 | 76.00 | 18.04 | 1um | 10.1016/j.cej.2021.131475 |
| 187 | CsFAMA | 200℃TiO2NPs | 1.351 | 0.987:3 | 1.026:3 | 20.33 | 1.090 | 79.00 | 17.10 | 500nm | 10.1016/j.cej.2021.131831 |
|  |  | 450℃TiO2NPs | 1.351 | 0.987:3 | 1.026:3 | 19.45 | 1.080 | 72.00 | 15.06 | 500nm | 10.1016/j.cej.2021.131831 |
| 188 | Cs0.16FA0.84Pb(I0.88Br0.12)3 | SnO2-coated | 1.303 | 1:3 | 1.06:3 | 22.20 | 0.980 | 77.60 | 16.90 | 500nm | 10.1016/j.solmat.2021.111189 |
|  |  | c-TiO2-coated | 1.303 | 1:3 | 1.06:3 | 21.50 | 1.017 | 72.40 | 15.86 | 500nm | 10.1016/j.solmat.2021.111189 |
| 189 | (Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3) | Control | 1.351 | 1:3 | 1:3 | 21.88 | 1.060 | 76.00 | 17.59 | 500nm | 10.1016/j.solmat.2020.110606 |
|  |  | UV-treatedPTAA | 1.351 | 1:3 | 1:3 | 22.74 | 1.080 | 78.00 | 19.17 | 500nm | 10.1016/j.solmat.2020.110606 |
| 190 | MAPbI3 | Pristine | 1.333 | 1:3 | 1:3 | 18.64 | 1.040 | 70.98 | 13.75 | 1um | 10.1016/j.solener.2021.05.003 |
| 191 | Cs0.7FA0.3PbI2Br | Cs1-xFAxPbI2Br(x=0.3) | 1.048 | 1:3 | 1:3 | 15.65 | 1.090 | 72.00 | 12.28 | 100nm | 10.1016/j.solmat.2020.110741 |
| 192 | Cs0.05(MA0.12FA0.88)0.95Pb(I0.88Br0.12)3 | Control | 1.351 | 0.990:3 | 1.005:3 | 22.73 | 1.140 | 74.27 | 19.24 | 500nm | 10.1021/acsaem.1c01142 |
|  |  | AQCl-2doped | 1.351 | 0.990:3 | 1.005:3 | 22.74 | 1.180 | 80.73 | 21.66 | 500nm | 10.1021/acsaem.1c01142 |
| 193 |  | PTAA/PVK | 1.346 | 0.974:3 | 1.013:3 | 22.10 | 1.040 | 77.70 | 17.80 | 500nm | 10.1021/acsenergylett.1c00291 |
|  |  | PTAA/PVKPPS | 1.346 | 0.974:3 | 1.013:3 | 22.60 | 1.100 | 80.60 | 20.00 | 500nm | 10.1021/acsenergylett.1c00291 |
|  |  | PTAA/PPS/PVKPPS | 1.346 | 0.974:3 | 1.013:3 | 23.00 | 1.160 | 81.20 | 21.70 | 500nm | 10.1021/acsenergylett.1c00291 |
| 194 | MAPbI3 | SnO2 | 1.330 | 0.790:3 | 1.105:3 | 22.51 | 1.086 | 76.81 | 18.77 | 200nm | 10.1016/j.matlet.2021.130425 |
|  |  | Ph(CN)6-modifiedSnO2 | 1.330 | 0.790:3 | 1.105:3 | 22.88 | 1.112 | 81.72 | 20.79 | 200nm | 10.1016/j.matlet.2021.130425 |
| 195 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 20.76 | 1.036 | 72.69 | 15.63 | 500nm | 10.1016/j.solener.2021.07.021 |
|  |  | 0.15wt%PCL | 1.330 | 1:3 | 1:3 | 22.75 | 1.053 | 73.44 | 17.60 | 500nm | 10.1016/j.solener.2021.07.021 |
|  |  | 0.30wt%PCL | 1.330 | 1:3 | 1:3 | 23.75 | 1.069 | 77.98 | 19.78 | 500nm | 10.1016/j.solener.2021.07.021 |
|  |  | 0.45wt%PCL | 1.330 | 1:3 | 1:3 | 22.37 | 1.057 | 75.53 | 17.86 | 500nm | 10.1016/j.solener.2021.07.021 |
|  |  | 0.6wt%PCL | 1.330 | 1:3 | 1:3 | 21.67 | 1.065 | 73.80 | 17.09 | 500nm | 10.1016/j.solener.2021.07.021 |
| 196 | MAPbI3 | 58kDaMw | 1.330 | 1:3 | 1:3 | 21.70 | 1.124 | 76.60 | 18.68 | 200nm | 10.1016/j.solener.2021.02.064 |
|  |  | 75kDaMw | 1.330 | 1:3 | 1:3 | 22.40 | 1.129 | 75.20 | 19.24 | 200nm | 10.1016/j.solener.2021.02.064 |
|  |  | 100kDaMw | 1.330 | 1:3 | 1:3 | 21.60 | 1.098 | 78.10 | 18.52 | 200nm | 10.1016/j.solener.2021.02.064 |
| 197 | Cs0.05(FA0.85MA0.15)0.95Pb(I0.85Br0.15)3 | Control | 1.351 | 0.976:3 | 1.012:3 | 21.68 | 1.130 | 70.83 | 17.32 | 500nm | 10.1016/j.solener.2020.06.057 |
| 198 | MAPbI3 | Control | 1.330 | 0.980:3 | 1.010:3 | 20.06 | 1.070 | 71.00 | 15.24 | 2um | 10.1016/j.solener.2021.01.025 |
|  |  | 1:0ratioofPMDS | 1.330 | 0.980:3 | 1.010:3 | 20.59 | 1.060 | 73.00 | 15.93 | 2um | 10.1016/j.solener.2021.01.025 |
|  |  | 15:1ratioofPMDS | 1.330 | 0.980:3 | 1.010:3 | 20.57 | 1.050 | 73.00 | 15.77 | 2um | 10.1016/j.solener.2021.01.025 |
| 199 | Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3 | Pristine | 1.351 | 0.974:3 | 1.013:3 | 22.18 | 1.160 | 70.50 | 18.10 | 500nm | 10.1016/j.cej.2020.126152 |
|  |  | P3HT | 1.351 | 0.974:3 | 1.013:3 | 22.20 | 1.180 | 76.20 | 20.00 | 500nm | 10.1016/j.cej.2020.126152 |
| 200 | Cs0.05(FA0.85MA0.15)0.95Pb(I0.85Br0.15)3 | F0 | 1.351 | 1.033:3 | 0.984:3 | 22.53 | 1.121 | 76.20 | 19.25 | 1um | 10.1016/j.cej.2020.126712 |
|  |  | F0.5 | 1.351 | 1.033:3 | 0.984:3 | 22.65 | 1.155 | 76.60 | 19.88 | 1um | 10.1016/j.cej.2020.126712 |
|  |  | F1 | 1.351 | 1.033:3 | 0.984:3 | 22.75 | 1.177 | 76.80 | 20.56 | 1um | 10.1016/j.cej.2020.126712 |
| 201 | CsPbIBr2 | ZnO | 0.913 | 1:3 | 1:3 | 11.81 | 1.200 | 68.47 | 9.70 | 1um | 10.1016/j.cej.2020.124903 |
|  |  | SnO2 | 0.913 | 1:3 | 1:3 | 11.91 | 1.270 | 71.72 | 10.81 | 1um | 10.1016/j.cej.2020.124903 |
| 202 | MAPbI3 | H2 | 1.330 | 1:3 | 1:3 | 22.95 | 1.040 | 76.00 | 18.12 | 1um | 10.1016/j.cej.2020.125923 |
| 203 | MAPbI3 | MAPbI3-OA | 1.330 | 1:3 | 1:3 | 23.00 | 1.130 | 82.50 | 21.50 | 1um | 10.1016/j.nanoen.2020.104929 |
| 204 | CH3NH3PbI3 | Pristine | 1.351 | 1.033:3 | 0.984:3 | 23.39 | 1.109 | 75.00 | 19.46 | 1um | 10.1016/j.nanoen.2020.105127 |
|  |  | 3mM-MBIm | 1.351 | 1.033:3 | 0.984:3 | 23.41 | 1.195 | 77.00 | 21.57 | 1um | 10.1016/j.nanoen.2020.105127 |
| 205 | Cs0.05FA0.83MA0.17PbI0.83Br0.17 | Control | 4.251 | 0.981:3 | 1.009:3 | 21.75 | 1.050 | 73.00 | 16.67 | 500nm | 10.1016/j.nanoen.2020.105181 |
| 206 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 21.67 | 1.010 | 76.87 | 16.76 | 200nm | 10.1016/j.nanoen.2020.104846 |
|  |  | NiOx/adenine | 1.330 | 1:3 | 1:3 | 22.94 | 1.060 | 77.76 | 18.96 | 200nm | 10.1016/j.nanoen.2020.104846 |
| 207 | MAPbI3 | SnO2 | 1.330 | 1:3 | 1:3 | 21.23 | 1.050 | 70.31 | 15.67 | 200nm | 10.1016/j.cej.2021.128436 |
|  |  | SnO2/2DBi2O2Se | 1.330 | 1:3 | 1:3 | 23.18 | 1.070 | 75.47 | 18.72 | 200nm | 10.1016/j.cej.2021.128436 |
| 208 | MAPbI3 | PCBM | 1.330 | 1:3 | 1:3 | 20.01 | 1.050 | 74.15 | 15.57 | 1um | 10.1016/j.cej.2021.129730 |
|  |  | PDI-2Br-I | 1.330 | 1:3 | 1:3 | 19.12 | 1.020 | 73.75 | 14.38 | 1um | 10.1016/j.cej.2021.129730 |
|  |  | C60-PDI-I | 1.330 | 1:3 | 1:3 | 21.86 | 1.070 | 78.11 | 18.27 | 1um | 10.1016/j.cej.2021.129730 |
| 209 | MAPbBr3 | Control | 1.378 | 1:3 | 1:3 | 22.92 | 0.990 | 76.40 | 17.70 | 500nm | 10.1016/j.cej.2021.130508 |
|  |  | SAIC | 1.378 | 1:3 | 1:3 | 23.46 | 1.080 | 77.90 | 19.80 | 500nm | 10.1016/j.cej.2021.130508 |
| 210 | Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3 | Control | 1.351 | 0.974:3 | 1.013:3 | 22.38 | 1.060 | 73.10 | 17.34 | 1um | 10.1016/j.cej.2021.130685 |
|  |  | WithMS | 1.351 | 0.974:3 | 1.013:3 | 23.28 | 1.130 | 79.16 | 20.82 | 1um | 10.1016/j.cej.2021.130685 |
| 211 | Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3 | Control | 1.351 | 1.035 | 0.983:3 | 23.50 | 1.122 | 71.98 | 18.99 | 200nm | 10.1016/j.cej.2021.130841 |
|  |  | 0.3%KPF6 | 1.351 | 1.035 | 0.983:3 | 23.87 | 1.147 | 77.93 | 21.37 | 200nm | 10.1016/j.cej.2021.130841 |
|  |  | 0.5%KPF6 | 1.351 | 1.035 | 0.983:3 | 24.09 | 1.167 | 78.26 | 22.04 | 200nm | 10.1016/j.cej.2021.130841 |
|  |  | 0.7%KPF6 | 1.351 | 1.035 | 0.983:3 | 24.07 | 1.143 | 76.45 | 20.98 | 200nm | 10.1016/j.cej.2021.130841 |
| 212 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 21.29 | 1.050 | 78.09 | 17.54 | 200nm | 10.1016/j.cej.2021.131357 |
|  |  | 8mg/mLSaC-100 | 1.330 | 1:3 | 1:3 | 21.80 | 1.100 | 78.93 | 18.92 | 200nm | 10.1016/j.cej.2021.131357 |
|  |  | 10mg/mLSaC-100 | 1.330 | 1:3 | 1:3 | 22.37 | 1.120 | 81.26 | 20.21 | 200nm | 10.1016/j.cej.2021.131357 |
|  |  | 12mg/mLSaC-100 | 1.330 | 1:3 | 1:3 | 21.44 | 1.100 | 81.46 | 19.29 | 200nm | 10.1016/j.cej.2021.131357 |
| 213 | CH3NH3PbI3 | WithoutMoO3 | 1.330 | 1:3 | 1:3 | 20.50 | 1.010 | 68.70 | 14.20 | 1um | 10.1016/j.chemphys.2020.111061 |
| 214 | CsPbMABrI3 | NiOx | 1.330 | 1:3 | 1:3 | 21.56 | 1.050 | 80.01 | 18.71 | 200nm | 10.1016/j.apsusc.2021.149973 |
|  |  | NiOx/TSPA | 1.330 | 1:3 | 1:3 | 22.76 | 1.110 | 80.32 | 20.21 | 200nm | 10.1016/j.apsusc.2021.149973 |
| 215 | MAPbI3 | ITO/PTAA/MAPbI3 | 1.330 | 1:3 | 1:3 | 22.13 | 1.100 | 79.27 | 19.31 | 200nm | 10.1016/j.nanoen.2021.105882 |
|  |  | ITO/PTAA/MAPbI3/TOAB | 1.330 | 1:3 | 1:3 | 23.50 | 1.110 | 82.00 | 21.47 | 200nm | 10.1016/j.nanoen.2021.105882 |
| 216 | MAPbI3 | 120℃PST | 1.330 | 1:3 | 1:3 | 19.71 | 1.109 | 73.78 | 16.13 | 1um | 10.1016/j.jpowsour.2021.229985 |
|  |  | 120℃PST | 1.330 | 1:3 | 1:3 | 19.71 | 1.109 | 73.78 | 16.13 | 1um | 10.1016/j.jpowsour.2021.229985 |
|  |  | 140℃PST | 1.330 | 1:3 | 1:3 | 18.04 | 1.071 | 73.37 | 14.18 | 1um | 10.1016/j.jpowsour.2021.229985 |
|  |  | 140℃PST | 1.330 | 1:3 | 1:3 | 18.04 | 1.071 | 73.37 | 14.18 | 1um | 10.1016/j.jpowsour.2021.229985 |
| 217 | MAPbI3 | 0mMTBAB | 1.330 | 0.974:3 | 1.013:3 | 21.49 | 1.097 | 74.47 | 17.56 | 500nm | 10.1016/j.jpowsour.2019.227623 |
|  |  | 5mMTBAB | 1.330 | 0.974:3 | 1.013:3 | 22.45 | 1.114 | 72.89 | 18.24 | 500nm | 10.1016/j.jpowsour.2019.227623 |
|  |  | 7.5mMTBAB | 1.330 | 0.974:3 | 1.013:3 | 23.41 | 1.119 | 76.97 | 20.16 | 500nm | 10.1016/j.jpowsour.2019.227623 |
|  |  | 10mMTBAB | 1.330 | 0.974:3 | 1.013:3 | 21.93 | 1.116 | 76.49 | 18.72 | 500nm | 10.1016/j.jpowsour.2019.227623 |
| 218 | MAPbI3 | 0mg/mLCDCA | 1.330 | 0.990:3 | 1.005:3 | 22.54 | 1.100 | 72.60 | 18.14 | 400nm | 10.1016/j.jpowsour.2020.228502 |
|  |  | 0.2mg/mLCDCA | 1.330 | 0.990:3 | 1.005:3 | 22.87 | 1.140 | 78.70 | 20.56 | 400nm | 10.1016/j.jpowsour.2020.228502 |
|  |  | 0.3mg/mLCDCA | 1.330 | 0.990:3 | 1.005:3 | 21.91 | 1.110 | 74.90 | 18.23 | 400nm | 10.1016/j.jpowsour.2020.228502 |
| 219 | MAPbI3 | CuSeCN | 1.330 | 0.974:3 | 1.013:3 | 21.32 | 1.031 | 71.01 | 15.61 | 1um | 10.1016/j.jpowsour.2020.228505 |
| 220 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 21.49 | 1.100 | 76.00 | 18.06 | 1um | 10.1016/j.orgel.2021.106124 |
|  |  | 0.2%4F-BZAI | 1.330 | 1:3 | 1:3 | 20.95 | 1.120 | 82.00 | 19.10 | 1um | 10.1016/j.orgel.2021.106124 |
| 221 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 21.97 | 1.040 | 77.68 | 17.76 | 500nm | 10.1016/j.orgel.2021.106226 |
|  |  | 3%DCD | 1.330 | 1:3 | 1:3 | 22.69 | 1.060 | 79.07 | 19.08 | 500nm | 10.1016/j.orgel.2021.106226 |
| 222 | CH3NH3PbI3 | Control | 1.330 | 1.049:3 | 0.975:3 | 23.20 | 0.970 | 72.00 | 16.38 | 300nm | 10.1016/j.orgel.2020.105972 |
|  |  | 1.0wt%TaCl5 | 1.330 | 1.049:3 | 0.975:3 | 22.56 | 1.080 | 75.00 | 18.23 | 300nm | 10.1016/j.orgel.2020.105972 |
| 223 | CH3NH3IxCl3-x | 0.45MZnO | 1.451 | 1:3 | 1:3 | 17.48 | 1.010 | 74.00 | 13.06 | 1um | 10.1016/j.orgel.2020.105714 |
|  |  | 0.90MZnO | 1.451 | 1:3 | 1:3 | 16.42 | 0.960 | 74.00 | 11.74 | 1um | 10.1016/j.orgel.2020.105714 |
| 224 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 21.12 | 1.068 | 77.19 | 17.41 | 1um | 10.1016/j.orgel.2020.105959 |
| 225 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 20.33 | 1.000 | 75.70 | 15.91 | 1um | 10.1016/j.jcis.2019.09.087 |
|  |  | 0.1%PbNiOx | 1.330 | 1:3 | 1:3 | 20.01 | 1.020 | 78.60 | 16.64 | 1um | 10.1016/j.jcis.2019.09.087 |
|  |  | 5%LiNiPbOx | 1.330 | 1:3 | 1:3 | 21.31 | 1.010 | 78.80 | 17.44 | 1um | 10.1016/j.jcis.2019.09.087 |
| 226 | (BA)2(MA)3Pb4I13 | Pristine | 1.330 | 1:3 | 1:3 | 11.26 | 1.050 | 67.00 | 7.90 | 500nm | 10.1016/j.cplett.2021.138364 |
| 227 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 15.40 | 0.890 | 70.00 | 8.90 | 500nm | 10.1016/j.electacta.2021.138658 |
|  |  | Zn-doped | 1.330 | 1:3 | 1:3 | 17.20 | 0.925 | 83.00 | 12.50 | 500nm | 10.1016/j.electacta.2021.138658 |
| 228 | MAPbI3 | SnO2 | 1.330 | 0.995:3 | 1.011:3 | 22.54 | 1.090 | 67.80 | 16.68 | 500nm | 10.1016/j.jallcom.2020.154717 |
|  |  | Cl-SnO2 | 1.330 | 0.995:3 | 1.011:3 | 23.28 | 1.120 | 71.39 | 18.63 | 500nm | 10.1016/j.jallcom.2020.154717 |
|  |  | SnO2-Cl | 1.330 | 0.995:3 | 1.011:3 | 22.39 | 1.100 | 70.47 | 17.46 | 500nm | 10.1016/j.jallcom.2020.154717 |
| 229 | MAPbI3 | P3CT-K | 1.330 | 1:3 | 1:3 | 22.20 | 1.050 | 78.30 | 18.20 | 500nm | 10.1016/j.jechem.2020.06.029 |
|  |  | P3CT-ED | 1.330 | 1:3 | 1:3 | 23.30 | 1.080 | 80.90 | 20.50 | 500nm | 10.1016/j.jechem.2020.06.029 |
| 230 | MA0.1FA0.8Cs0.1Pb(I0.97Br0.03)3 | ZnO-NRs | 1.323 | 0.987:3 | 1.006:3 | 23.26 | 0.980 | 71.01 | 17.00 | 500nm | 10.1016/j.jechem.2021.02.018 |
|  |  | ZnO-NRs@ZnS | 1.323 | 0.987:3 | 1.006:3 | 23.48 | 1.100 | 76.86 | 20.26 | 500nm | 10.1016/j.jechem.2021.02.018 |
| 231 | (Cs0.08FA0.8MA0.12)Pb(I0.88Br0.12)3 | Pristine | 1.336 | 0.977:3 | 1.011:3 | 23.30 | 1.090 | 77.22 | 19.68 | 1um | 10.1016/j.xcrp.2021.100475 |
|  |  | 0.75mol%[Bcim][TFSI] | 1.336 | 0.977:3 | 1.011:3 | 22.97 | 1.120 | 81.80 | 21.06 | 1um | 10.1016/j.xcrp.2021.100475 |
| 232 | MAPbI3 | I-SnO2 | 1.330 | 1:3 | 1:3 | 20.68 | 1.098 | 77.87 | 17.68 | 500nm | 10.1016/j.jmst.2021.03.045 |
| 233 | CH3NH3PbI3 | SnO2 | 1.330 | 1:3 | 1:3 | 20.93 | 1.026 | 73.00 | 15.68 | 1um | 10.1039/d0ra00375a |
| 234 | MAPbBr3 | TOETLs | 1.378 | 0.947:3 | 1.026:3 | 22.83 | 1.040 | 72.30 | 17.18 | 500nm | 10.1016/j.jcis.2021.02.028 |
|  |  | TOCNETLs | 1.378 | 0.947:3 | 1.026:3 | 24.44 | 1.053 | 79.50 | 20.46 | 500nm | 10.1016/j.jcis.2021.02.028 |
| 235 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 20.58 | 1.020 | 74.61 | 15.66 | 1um | 10.1016/j.jcis.2021.04.055 |
|  |  | C60-tBu-I | 1.330 | 1:3 | 1:3 | 21.25 | 1.080 | 77.38 | 17.75 | 1um | 10.1016/j.jcis.2021.04.055 |
| 236 | MAPbI3 | NiOx | 1.330 | 1:3 | 1:3 | 15.20 | 1.040 | 73.00 | 11.50 | 1um | 10.1016/j.solener.2019.01.097 |
|  |  | 0.5mmol%Co-NiOx | 1.330 | 1:3 | 1:3 | 16.00 | 1.070 | 77.00 | 13.20 | 1um | 10.1016/j.solener.2019.01.097 |
|  |  | 1mmol%Co-NiOx | 1.330 | 1:3 | 1:3 | 17.30 | 1.060 | 79.00 | 14.50 | 1um | 10.1016/j.solener.2019.01.097 |
|  |  | 2mmol%Co-NiOx | 1.330 | 1:3 | 1:3 | 15.90 | 1.080 | 78.00 | 13.40 | 1um | 10.1016/j.solener.2019.01.097 |
|  |  | 5mmol%Co-NiOx | 1.330 | 1:3 | 1:3 | 16.20 | 1.060 | 77.00 | 13.10 | 1um | 10.1016/j.solener.2019.01.097 |
| 237 |  | 1mg/mLNiONCs | 1.330 | 1:3 | 1:3 | 23.25 | 1.110 | 75.75 | 19.42 | 500nm | 10.1016/j.solener.2019.02.011 |
| 238 | MAPbI3 | w/oCTAB | 1.330 | 1.001:3 | 0.999:3 | 16.20 | 0.850 | 75.00 | 10.28 | 200nm | 10.1016/j.solener.2019.05.073 |
|  |  | wCTAB | 1.330 | 1.001:3 | 0.999:3 | 18.43 | 0.900 | 75.00 | 12.39 | 200nm | 10.1016/j.solener.2019.05.073 |
| 239 | Cs0.15(FA0.83MA0.17)0.85Pb(I0.8Br0.2)3 | Pristine | 1.305 | 1.118:3 | 0.915:3 | 18.10 | 1.170 | 77.40 | 16.40 | 500nm | 10.1016/j.joule.2018.10.003 |
|  |  | 0.3wt%MAH2PO2 | 1.305 | 1.118:3 | 0.915:3 | 18.70 | 1.190 | 80.00 | 17.70 | 500nm | 10.1016/j.joule.2018.10.003 |
| 240 | (CsPbI3)0.05(FAPbI3)0.85(MAPbBr3)0.15 | Control | 1.352 | 1:3 | 0.952:3 | 21.98 | 1.120 | 72.00 | 17.76 | 1um | 10.1016/j.joule.2019.03.023 |
|  |  | SSG1 | 1.352 | 1:3 | 0.952:3 | 22.78 | 1.130 | 73.00 | 18.79 | 1um | 10.1016/j.joule.2019.03.023 |
|  |  | SSG2 | 1.352 | 1:3 | 0.952:3 | 23.17 | 1.140 | 76.00 | 20.10 | 1um | 10.1016/j.joule.2019.03.023 |
|  |  | SSG3 | 1.352 | 1:3 | 0.952:3 | 23.28 | 1.130 | 74.00 | 19.47 | 1um | 10.1016/j.joule.2019.03.023 |
|  |  | SSG4 | 1.352 | 1:3 | 0.952:3 | 23.36 | 1.110 | 72.00 | 18.67 | 1um | 10.1016/j.joule.2019.03.023 |
| 241 | MAPbI3 | PEDOT:PSS | 1.330 | 1:3 | 1:3 | 19.33 | 1.010 | 70.00 | 13.56 | 1um | 10.1016/j.isci.2019.11.007 |
|  |  | PTAA | 1.330 | 1:3 | 1:3 | 22.22 | 1.070 | 75.00 | 17.83 | 1um | 10.1016/j.isci.2019.11.007 |
| 242 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 22.01 | 1.057 | 69.85 | 16.24 | 100nm | 10.1016/j.carbon.2019.01.105 |
|  |  | 3wt%CnDs | 1.330 | 1:3 | 1:3 | 23.29 | 1.081 | 75.03 | 18.87 | 100nm | 10.1016/j.carbon.2019.01.105 |
| 243 | MAPbI3 | m-NiO | 1.330 | 1:3 | 1:3 | 21.12 | 1.067 | 69.00 | 15.54 | 400nm | 10.1016/j.solener.2019.09.064 |
|  |  | p-NiO | 1.330 | 1:3 | 1:3 | 22.25 | 1.105 | 74.00 | 18.11 | 400nm | 10.1016/j.solener.2019.09.064 |
| 244 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 19.76 | 1.020 | 74.60 | 15.18 | 500nm | 10.1016/j.solener.2020.01.001 |
|  |  | 2.5wt%NPB | 1.330 | 1:3 | 1:3 | 22.32 | 1.060 | 76.70 | 18.23 | 500nm | 10.1016/j.solener.2020.01.001 |
| 245 | MAPbI3 | two-step | 1.330 | 1:3 | 1:3 | 20.86 | 1um | 77.00 | 16.11 | 500nm | 10.1016/j.cplett.2017.12.012 |
| 246 |  | CB | 1.330 | 1:3 | 1:3 | 20.50 | 1.060 | 71.00 | 15.30 | 100nm | 10.1016/j.molstruc.2018.08.021 |
| 247 | Cs0.05FA0.81MA0.14PbI2.55Br0.45 | CuPc | 1.330 | 1.001:3 | 0.999:3 | 19.00 | 0.960 | 79.00 | 14.20 | 500nm | 10.1016/j.electacta.2018.04.055 |
|  |  | PEDOT:PSS | 1.330 | 1.001:3 | 0.999:3 | 20.30 | 0.890 | 75.00 | 13.60 | 500nm | 10.1016/j.electacta.2018.04.055 |
| 248 | MAPbI3 | CF | 1.330 | 1:3 | 1:3 | 21.20 | 0.940 | 71.00 | 14.20 | 200nm | 10.1016/j.tsf.2018.07.025 |
|  |  | Tol | 1.330 | 1:3 | 1:3 | 20.30 | 0.940 | 72.00 | 13.80 | 200nm | 10.1016/j.tsf.2018.07.025 |
| 249 | MAPbI3 | 0%Blendratio | 1.330 | 1:3 | 1:3 | 16.20 | 1.080 | 75.66 | 13.28 | 500nm | 10.1016/j.tsf.2018.07.041 |
|  |  | 3% | 1.330 | 1:3 | 1:3 | 17.40 | 1.070 | 70.98 | 13.24 | 500nm | 10.1016/j.tsf.2018.07.041 |
|  |  | 4% | 1.330 | 1:3 | 1:3 | 19.47 | 1.100 | 70.48 | 15.09 | 500nm | 10.1016/j.tsf.2018.07.041 |
| 250 | MAPbI3 | 0mol%TEOS | 1.330 | 1:3 | 1:3 | 20.93 | 1.041 | 73.21 | 15.96 | 1um | 10.1016/j.electacta.2018.10.043 |
|  |  | 0.1mol%TEOS | 1.330 | 1:3 | 1:3 | 21.24 | 1.088 | 74.11 | 17.12 | 1um | 10.1016/j.electacta.2018.10.043 |
|  |  | 0.15mol%TEOS | 1.330 | 1:3 | 1:3 | 22.10 | 1.069 | 72.74 | 17.18 | 1um | 10.1016/j.electacta.2018.10.043 |
|  |  | 0.3mol%TEOS | 1.330 | 1:3 | 1:3 | 23.50 | 1.069 | 73.16 | 18.38 | 1um | 10.1016/j.electacta.2018.10.043 |
| 251 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 21.40 | 1.080 | 72.00 | 16.60 | 500nm | 10.1016/j.jallcom.2019.02.027 |
|  |  | TiCl4 | 1.330 | 1:3 | 1:3 | 23.30 | 1.110 | 78.00 | 20.20 | 500nm | 10.1016/j.jallcom.2019.02.027 |
| 252 | (FA0.15MA0.85Pb(I0.95Br0.05)3) | Pristine | 1.339 | 1:3 | 1:3 | 21.49 | 1.080 | 70.80 | 16.52 | 1um | 10.1016/j.electacta.2019.06.102 |
| 253 | MAPbI3 | M116 | 1.330 | 1:3 | 1:3 | 21.10 | 1.030 | 72.00 | 15.50 | 200nm | 10.1016/j.dyepig.2019.01.052 |
|  |  | M117 | 1.330 | 1:3 | 1:3 | 21.70 | 1.030 | 70.00 | 15.70 | 200nm | 10.1016/j.dyepig.2019.01.052 |
|  |  | M118 | 1.330 | 1:3 | 1:3 | 22.40 | 1.060 | 72.00 | 17.10 | 200nm | 10.1016/j.dyepig.2019.01.052 |
|  |  | PEDOT:PSS | 1.330 | 1:3 | 1:3 | 20.30 | 0.920 | 77.00 | 14.40 | 200nm | 10.1016/j.dyepig.2019.01.052 |
| 254 | MAPbI3 | 0mg/mLDOBD | 1.330 | 1:3 | 1:3 | 20.60 | 0.950 | 74.70 | 14.47 | 2um | 10.1016/j.orgel.2018.12.012 |
|  |  | 1mg/mLDOBD | 1.330 | 1:3 | 1:3 | 20.58 | 0.980 | 77.40 | 15.67 | 2um | 10.1016/j.orgel.2018.12.012 |
|  |  | 2mg/mLDOBD | 1.330 | 1:3 | 1:3 | 20.94 | 1.010 | 77.20 | 16.15 | 2um | 10.1016/j.orgel.2018.12.012 |
|  |  | 3mg/mLDOBD | 1.330 | 1:3 | 1:3 | 21.40 | 1.060 | 79.10 | 17.58 | 2um | 10.1016/j.orgel.2018.12.012 |
|  |  | 4mg/mLDOBD | 1.330 | 1:3 | 1:3 | 20.95 | 1.060 | 77.20 | 17.20 | 2um | 10.1016/j.orgel.2018.12.012 |
|  |  | 5mg/mLDOBD | 1.330 | 1:3 | 1:3 | 20.81 | 1.070 | 74.80 | 16.58 | 2um | 10.1016/j.orgel.2018.12.012 |
| 255 |  | U-0 | 1.330 | 1:3 | 1:3 | 17.98 | 1.050 | 70.00 | 13.17 | 1um | 10.1016/j.apsusc.2018.10.141 |
|  |  | U-20 | 1.330 | 1:3 | 1:3 | 18.87 | 1.050 | 74.00 | 14.58 | 1um | 10.1016/j.apsusc.2018.10.141 |
|  |  | U-30 | 1.330 | 1:3 | 1:3 | 19.61 | 1.050 | 72.00 | 14.88 | 200nm | 10.1016/j.apsusc.2018.10.141 |
| 256 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 17.52 | 1.050 | 72.00 | 13.28 | 100nm | 10.1016/j.apsusc.2017.08.184 |
|  |  | 1at.%AgNiOx | 1.330 | 1:3 | 1:3 | 18.30 | 1.070 | 75.00 | 15.24 | 100nm | 10.1016/j.apsusc.2017.08.184 |
|  |  | 2at.%AgNiOx | 1.330 | 1:3 | 1:3 | 19.42 | 1.070 | 79.00 | 16.42 | 100nm | 10.1016/j.apsusc.2017.08.184 |
|  |  | 4at.%AgNiOx | 1.330 | 1:3 | 1:3 | 18.00 | 1.070 | 75.00 | 15.04 | 100nm | 10.1016/j.apsusc.2017.08.184 |
| 257 | CsPbBr3 | Pristine | 1.330 | 0.968:3 | 1.016:3 | 22.71 | 1.080 | 71.20 | 17.46 | 1um | 10.1016/j.apsusc.2019.05.067 |
|  |  | P0.5 | 1.330 | 0.968:3 | 1.016:3 | 22.77 | 1.110 | 72.00 | 18.20 | 1um | 10.1016/j.apsusc.2019.05.067 |
| 258 | (FAPbI3)1-x(MAPbBr3)x | 1000(m1-TB) | 1.375 | 0.947:3 | 1.026:3 | 19.79 | 1.048 | 71.10 | 14.74 | 1um | 10.1016/j.jpowsour.2019.01.041 |
|  |  | 2000(m2-TB) | 1.375 | 0.947:3 | 1.026:3 | 23.08 | 1.061 | 73.40 | 18.00 | 1um | 10.1016/j.jpowsour.2019.01.041 |
|  |  | 3000(m3-TB) | 1.375 | 0.947:3 | 1.026:3 | 21.99 | 1.060 | 71.60 | 16.74 | 1um | 10.1016/j.jpowsour.2019.01.041 |
| 259 | MAPbI3 | Pristine | 1.330 | 0.993:3 | 1.002:3 | 23.20 | 1.060 | 74.40 | 18.30 | 200nm | 10.1016/j.joule.2019.05.005 |
|  |  | 0.25wt%QDs | 1.330 | 0.993:3 | 1.002:3 | 23.00 | 1.130 | 80.30 | 20.90 | 200nm | 10.1016/j.joule.2019.05.005 |
| 260 |  | Pristine | 1.337 | 1:3 | 1:3 | 17.41 | 1.040 | 72.00 | 13.15 | 1um | 10.1016/j.ceramint.2018.07.121 |
| 261 | (FA0.83MA0.17)0.95Cs0.05Pb(I0.9Br0.1)3 | Pristine | 1.350 | 0.967:3 | 1.017:3 | 21.40 | 1.140 | 71.54 | 17.44 | 1um | 10.1016/j.jpowsour.2019.04.039 |
|  |  | NYES-30 | 1.350 | 0.967:3 | 1.017:3 | 22.91 | 1.140 | 77.04 | 20.19 | 1um | 10.1016/j.jpowsour.2019.04.039 |
|  |  | NYES-100 | 1.350 | 0.967:3 | 1.017:3 | 20.83 | 1.130 | 72.21 | 16.97 | 1um | 10.1016/j.jpowsour.2019.04.039 |
| 262 | CH3NH3Cl | DMSO+DMF+HAc | 1.330 | 1:3 | 1:3 | 19.70 | 1.100 | 76.00 | 16.57 | 500nm | 10.1016/j.ceramint.2019.03.159 |
| 263 | CH3NH3PbI3-x(SCN)x | KSCN | 1.330 | 1:3 | 1:3 | 20.45 | 1.065 | 76.20 | 16.59 | 400nm | 10.1016/j.jpowsour.2017.11.070 |
|  |  | NaSCN | 1.330 | 1:3 | 1:3 | 20.90 | 1.030 | 72.62 | 15.63 | 400nm | 10.1016/j.jpowsour.2017.11.070 |
| 264 |  | SnO2 | 1.321 | 0.964:3 | 1.108:3 | 20.80 | 1.030 | 74.60 | 16.10 | 100nm | 10.1016/j.jpowsour.2019.226907 |
|  |  | TiO2 | 1.321 | 0.964:3 | 1.108:3 | 20.90 | 1.080 | 79.30 | 17.90 | 100nm | 10.1016/j.jpowsour.2019.226907 |
|  |  | AITO | 1.321 | 0.964:3 | 1.108:3 | 21.50 | 1.100 | 79.80 | 18.90 | 100nm | 10.1016/j.jpowsour.2019.226907 |
| 265 | Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3 | 0Mpyridine | 1.350 | 0.964:3 | 1.018:3 | 21.86 | 1.092 | 70.90 | 16.94 | 500nm | 10.1016/j.jpowsour.2018.07.093 |
|  |  | 0.25Mpyridine | 1.350 | 0.964:3 | 1.018:3 | 22.13 | 1.100 | 73.20 | 17.82 | 500nm | 10.1016/j.jpowsour.2018.07.093 |
|  |  | 0.5Mpyridine | 1.350 | 0.964:3 | 1.018:3 | 22.29 | 1.136 | 75.12 | 19.03 | 500nm | 10.1016/j.jpowsour.2018.07.093 |
|  |  | 0.75Mpyridine | 1.350 | 0.964:3 | 1.018:3 | 21.70 | 1.127 | 73.19 | 17.91 | 500nm | 10.1016/j.jpowsour.2018.07.093 |
|  |  | 1Mpyridine | 1.350 | 0.964:3 | 1.018:3 | 21.16 | 1.126 | 73.36 | 17.48 | 500nm | 10.1016/j.jpowsour.2018.07.093 |
| 266 | Cs0.05FA0.81MA0.14PbI2.55Br0.45 | 0mg/mLPc | 1.351 | 1.003:3 | 0.998:3 | 21.80 | 1.128 | 71.00 | 17.50 | 500nm | 10.1016/j.jpowsour.2019.226987 |
|  |  | 0.1mg/mLPc | 1.351 | 1.003:3 | 0.998:3 | 22.00 | 1.151 | 72.80 | 18.60 | 500nm | 10.1016/j.jpowsour.2019.226987 |
|  |  | 0.3mg/mLPc | 1.351 | 1.003:3 | 0.998:3 | 22.00 | 1.144 | 74.40 | 18.80 | 500nm | 10.1016/j.jpowsour.2019.226987 |
| 267 | (FAPbI3)1-x(MAPbBr3)x | FABr-0 | 1.330 | 1:3 | 1:3 | 22.93 | 1.050 | 72.71 | 17.55 | 1um | 10.1016/j.jpowsour.2019.227386 |
|  |  | FABr-15 | 1.330 | 1:3 | 1:3 | 23.15 | 1.060 | 74.39 | 18.33 | 1um | 10.1016/j.jpowsour.2019.227386 |
| 268 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 22.69 | 1.050 | 70.40 | 19.15 | 1um | 10.1016/j.nanoen.2020.104940 |
|  |  | 4-mPy | 1.330 | 1:3 | 1:3 | 22.88 | 1.090 | 71.80 | 20.40 | 1um | 10.1016/j.nanoen.2020.104940 |
| 269 | MAPbI3 | As-fabricated | 1.330 | 1:3 | 1:3 | 20.72 | 1.080 | 73.60 | 16.47 | 500nm | 10.1016/j.jcou.2019.04.001 |
|  |  | CO2 | 1.330 | 1:3 | 1:3 | 23.18 | 1.060 | 73.70 | 18.10 | 500nm | 10.1016/j.jcou.2019.04.001 |
|  |  | He | 1.330 | 1:3 | 1:3 | 18.86 | 1.100 | 71.70 | 14.88 | 500nm | 10.1016/j.jcou.2019.04.001 |
| 270 | CH3NH3Pb(I0.95Br0.05)3 | MAPb(I1-xBrx)3(x=0.05) | 1.332 | 1:3 | 1:3 | 23.30 | 1.050 | 74.90 | 18.20 | 500nm | 10.1016/j.mtener.2019.03.003 |
| 271 | MAPbI3 | PEDOT:PSS | 1.330 | 1:3 | 1:3 | 16.99 | 0.840 | 79.57 | 11.35 | 500nm | 10.1016/j.mtener.2019.100341 |
|  |  | P3HT | 1.330 | 1:3 | 1:3 | 19.20 | 0.910 | 77.72 | 13.58 | 500nm | 10.1016/j.mtener.2019.100341 |
| 272 | MAPbI3 | 3:3ratio | 1.330 | 1.015:3 | 0.971:3 | 23.30 | 1.130 | 72.00 | 19.00 | 500nm | 10.1016/j.nanoen.2019.103867 |
|  |  | 3:5ratio | 1.330 | 1.015:3 | 0.971:3 | 23.20 | 1.150 | 75.00 | 19.80 | 500nm | 10.1016/j.nanoen.2019.103867 |
|  |  | 3:7ratio | 1.330 | 1.015:3 | 0.971:3 | 23.10 | 1.120 | 70.00 | 18.80 | 500nm | 10.1016/j.nanoen.2019.103867 |
| 273 |  | sol-gel | 1.330 | 1.015:3 | 0.971:3 | 20.16 | 1.106 | 77.89 | 17.37 | 2um | 10.1016/j.jallcom.2019.05.204 |
|  |  | Nanoparticles | 1.330 | 1.015:3 | 0.971:3 | 19.61 | 1.085 | 75.75 | 16.11 | 2um | 10.1016/j.jallcom.2019.05.204 |
| 274 | (FAPbI3)1-x(MAPbBr3)x | C4H6N2-X/mp-TiO2(x=0) | 1.375 | 0.947:3 | 1.026:3 | 23.45 | 1.050 | 71.00 | 17.48 | 1um | 10.1016/j.jpowsour.2020.227714 |
|  |  | x=2 | 1.375 | 0.947:3 | 1.026:3 | 23.57 | 1.070 | 74.00 | 18.66 | 1um | 10.1016/j.jpowsour.2020.227714 |
|  |  | x=4 | 1.375 | 0.947:3 | 1.026:3 | 23.68 | 1.110 | 74.00 | 19.45 | 1um | 10.1016/j.jpowsour.2020.227714 |
|  |  | x=8 | 1.375 | 0.947:3 | 1.026:3 | 22.60 | 1.130 | 73.00 | 18.68 | 1um | 10.1016/j.jpowsour.2020.227714 |
| 275 | FAPbI3 | Control | 1.306 | 0.922:3 | 1.039:3 | 23.35 | 1.071 | 71.81 | 17.85 | 500nm | 10.1016/j.jechem.2020.01.012 |
| 276 | MAPbI3 | TiO2 | 1.330 | 1.001:3 | 0.999:3 | 21.93 | 1.060 | 74.00 | 17.38 | 2um | 10.1016/j.nanoen.2017.11.008 |
|  |  | C-PCBSDGD | 1.330 | 1.001:3 | 0.999:3 | 23.30 | 1.110 | 78.00 | 20.19 | 2um | 10.1016/j.nanoen.2017.11.008 |
| 277 | MAPbI3 | GO | 1.330 | 1:3 | 1:3 | 20.00 | 0.935 | 78.70 | 14.70 | 1um | 10.1016/j.nanoen.2019.05.084 |
|  |  | GO/Cdots0.025 | 1.330 | 1:3 | 1:3 | 20.20 | 0.935 | 82.20 | 15.60 | 1um | 10.1016/j.nanoen.2019.05.084 |
|  |  | GO/Cdots0.05 | 1.330 | 1:3 | 1:3 | 21.00 | 0.953 | 80.10 | 16.20 | 1um | 10.1016/j.nanoen.2019.05.084 |
| 278 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 20.05 | 1.070 | 76.24 | 16.34 | 200nm | 10.1016/j.nanoen.2019.02.064 |
|  |  | PABA∙HI | 1.330 | 1:3 | 1:3 | 20.28 | 1.080 | 77.62 | 17.35 | 200nm | 10.1016/j.nanoen.2019.02.064 |
|  |  | GABA∙HI | 1.330 | 1:3 | 1:3 | 19.68 | 1.080 | 71.77 | 15.28 | 200nm | 10.1016/j.nanoen.2019.02.064 |
|  |  | PABA | 1.330 | 1:3 | 1:3 | 19.38 | 1.080 | 73.94 | 15.48 | 200nm | 10.1016/j.nanoen.2019.02.064 |
| 279 | (FAPbI3)1-x(MAPbBr3)x | x=0.10 | 1.375 | 1:3 | 1:3 | 14.12 | 1.430 | 71.14 | 14.36 | 1um | 10.1016/j.nanoen.2019.03.056 |
|  |  | x=0.15 | 1.375 | 1:3 | 1:3 | 14.66 | 1.445 | 69.01 | 14.62 | 1um | 10.1016/j.nanoen.2019.03.056 |
|  |  | x=0.20 | 1.375 | 1:3 | 1:3 | 15.12 | 1.470 | 76.68 | 17.04 | 1um | 10.1016/j.nanoen.2019.03.056 |
|  |  | x=0.25 | 1.375 | 1:3 | 1:3 | 15.21 | 1.490 | 75.50 | 17.11 | 1um | 10.1016/j.nanoen.2019.03.056 |
|  |  | x=0 | 1.374 | 1:3 | 1:3 | 14.38 | 1.485 | 72.93 | 15.57 | 1um | 10.1016/j.nanoen.2019.03.056 |
|  |  | x=0.05 | 1.374 | 1:3 | 1:3 | 14.52 | 1.505 | 76.66 | 16.75 | 1um | 10.1016/j.nanoen.2019.03.056 |
| 280 |  | Ni(0.01)TiO2 | 1.351 | 1:3 | 1:3 | 22.41 | 1.073 | 72.60 | 17.46 | 500nm | 10.1016/j.nanoen.2018.04.026 |
| 281 | CsPbBr1.85I1.15 | Pristine | 1.351 | 1:3 | 1:3 | 23.37 | 1.090 | 76.00 | 19.51 | 200nm | 10.1016/j.nanoen.2019.03.091 |
|  |  | QDs-10 | 1.351 | 1:3 | 1:3 | 23.42 | 1.140 | 79.00 | 21.14 | 200nm | 10.1016/j.nanoen.2019.03.091 |
| 282 |  | Pristine | 1.330 | 1.071:3 | 0.977:3 | 21.42 | 1.060 | 78.21 | 17.87 | 200nm | 10.1016/j.jpowsour.2020.228665 |
|  |  | 5mg/mLHBP | 1.330 | 1.071:3 | 0.977:3 | 21.95 | 1.100 | 79.38 | 19.28 | 200nm | 10.1016/j.jpowsour.2020.228665 |
|  |  | 10mg/mLHBP | 1.330 | 1.071:3 | 0.977:3 | 21.33 | 1.100 | 78.07 | 18.64 | 200nm | 10.1016/j.jpowsour.2020.228665 |
|  |  | 20mg/mLHBP | 1.330 | 1.071:3 | 0.977:3 | 21.34 | 1.100 | 77.49 | 18.25 | 200nm | 10.1016/j.jpowsour.2020.228665 |
| 283 | CsFAMA | withoutYOS | 1.340 | 0.979:3 | 1.010:3 | 24.10 | 1.130 | 75.30 | 20.90 | 500nm | 10.1016/j.jpowsour.2020.228757 |
|  |  | withYOS | 1.340 | 0.979:3 | 1.010:3 | 23.60 | 1.060 | 75.10 | 19.47 | 500nm | 10.1016/j.jpowsour.2020.228757 |
| 284 | Cs0.07FA1.09MA0.14Pb1.35I3.46Br0.54 | Pristine | 1.320 | 0.975:3 | 1.012:3 | 22.60 | 1.120 | 72.00 | 18.19 | 500nm | 10.1016/j.jallcom.2020.154035 |
|  |  | 5mg/mLDAIB | 1.320 | 0.975:3 | 1.012:3 | 22.93 | 1.150 | 77.00 | 20.08 | 500nm | 10.1016/j.jallcom.2020.154035 |
| 285 | Cs0.05(MA0.17FA0.83)0.95Pb(I0.83Br0.17)3 | Pristine | 1.350 | 0.994:3 | 1.011:3 | 23.20 | 1.130 | 71.70 | 18.80 | 1um | 10.1016/j.cej.2020.125010 |
| 286 | FA0.8Cs0.2PbI2.68Br0.32 | 1mol%Pb(SCN)2 | 1.283 | 1:3 | 1:3 | 21.49 | 0.987 | 73.79 | 15.70 | 1um | 10.1016/j.orgel.2017.11.045 |
|  |  | 2mol%Pb(SCN)2 | 1.283 | 1:3 | 1:3 | 22.08 | 1.009 | 76.21 | 17.00 | 1um | 10.1016/j.orgel.2017.11.045 |
| 287 | MA1-xEAxPbI3 | x=0.2 | 1.330 | 1:3 | 1:3 | 19.28 | 1.020 | 70.08 | 13.31 | 500nm | 10.1016/j.jechem.2017.09.027 |
| 288 | Cs0.05FA0.81MA0.14PbI2.55Br0.45 | 6mMKSCN | 1.350 | 0.974:3 | 1.013:3 | 22.98 | 1.080 | 73.52 | 18.28 | 1um | 10.1016/j.orgel.2018.09.040 |
|  |  | 12mMKSCN | 1.350 | 0.974:3 | 1.013:3 | 23.07 | 1.110 | 75.08 | 19.23 | 1um | 10.1016/j.orgel.2018.09.040 |
| 289 | (FAPbI3)0.85(MAPbBr3)0.15 | Spiro-OMeTAD | 1.375 | 1:3 | 1:3 | 22.18 | 1.070 | 74.99 | 17.89 | 500nm | 10.1016/j.orgel.2019.03.035 |
| 290 | MAPbI3 | 0mg/mLN2200 | 1.330 | 0.969:3 | 1.061:3 | 18.35 | 0.956 | 76.67 | 14.18 | 1um | 10.1016/j.orgel.2019.03.033 |
| 291 | MAPb0.99Tl0.01I3 | 0%Tl | 1.330 | 1:3 | 1:3 | 19.20 | 1.050 | 75.00 | 15.10 | 500nm | 10.1016/j.jpowsour.2020.228818 |
| 292 | MAPbI3 | mp-TiO2 | 1.330 | 1:3 | 1:3 | 18.73 | 0.900 | 70.69 | 11.19 | 500nm | 10.1016/j.jallcom.2017.12.199 |
| 293 | Cs0.5(MA0.15FA0.85)0.95Pb(I0.85Br0.15)3 | un-doped | 1.754 | 1:3 | 1:3 | 21.49 | 1.103 | 71.89 | 17.04 | 200nm | 10.1016/j.solidstatesciences.2019.03.024 |
|  |  | n-doped | 1.754 | 1:3 | 1:3 | 21.53 | 1.110 | 74.62 | 17.83 | 200nm | 10.1016/j.solidstatesciences.2019.03.024 |
| 294 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 21.00 | 1.060 | 73.00 | 16.20 | 500nm | 10.1016/j.solmat.2018.05.017 |
|  |  | 0.4mMI3 | 1.330 | 1:3 | 1:3 | 22.10 | 1.110 | 76.00 | 18.70 | 500nm | 10.1016/j.solmat.2018.05.017 |
| 295 | FA0.9Cs0.1PbI2.9Br0.1 | 4mMPEAI | 1.330 | 0.991:3 | 1.004:3 | 23.21 | 1.023 | 70.60 | 16.86 | 500nm | 10.1016/j.solmat.2018.02.015 |
| 296 | CuSCN:MAPI | 100℃anneal | 1.330 | 1:3 | 1:3 | 16.66 | 0.990 | 70.85 | 11.68 | 200nm | 10.1016/j.orgel.2020.105958 |
| 297 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 18.91 | 1.090 | 73.90 | 15.16 | 500nm | 10.1016/j.orgel.2019.06.003 |
|  |  | 0.07wt%PTE | 1.330 | 1:3 | 1:3 | 19.74 | 1.080 | 76.20 | 16.32 | 500nm | 10.1016/j.orgel.2019.06.003 |
| 298 | MAPbI3 | NiOx | 1.330 | 1:3 | 1:3 | 20.90 | 1.080 | 76.00 | 17.15 | 200nm | 10.1016/j.orgel.2020.105627 |
|  |  | NiOx-F | 1.330 | 1:3 | 1:3 | 22.59 | 1.080 | 76.00 | 18.76 | 200nm | 10.1016/j.orgel.2020.105627 |
| 299 | MA0.7FA0.3PbI3-xClx | 1%DMF | 1.725 | 1:3 | 1:3 | 22.40 | 1.090 | 74.72 | 18.21 | 1um | 10.1016/j.orgel.2019.04.012 |
|  |  | 1.5%DMF | 1.725 | 1:3 | 1:3 | 22.23 | 1.060 | 72.88 | 17.14 | 1um | 10.1016/j.orgel.2019.04.012 |
| 300 |  | GQD0 | 1.330 | 1:3 | 1:3 | 18.53 | 0.972 | 72.98 | 13.14 | 1um | 10.1016/j.orgel.2019.105575 |
|  |  | GQD2 | 1.330 | 1:3 | 1:3 | 21.41 | 1.002 | 75.31 | 16.16 | 1um | 10.1016/j.orgel.2019.105575 |
| 301 | (FAPbI3)0.85(MAPbBr3)0.15 | Spiro | 1.375 | 0.947:3 | 1.026:3 | 22.20 | 1.070 | 70.30 | 16.70 | 1um | 10.1016/j.jechem.2018.07.013 |
|  |  | C102 | 1.375 | 0.947:3 | 1.026:3 | 22.70 | 1.070 | 71.40 | 17.40 | 1um | 10.1016/j.jechem.2018.07.013 |
| 302 | MAPbI3 | Pristine | 1.330 | 0.975:3 | 1.05:3 | 23.23 | 1.040 | 72.00 | 17.39 | 200nm | 10.1016/j.orgel.2019.105495 |
|  |  | 2mg/mLCs2CO3 | 1.330 | 0.975:3 | 1.05:3 | 23.39 | 1.070 | 73.00 | 18.26 | 200nm | 10.1016/j.orgel.2019.105495 |
| 303 | Cs0.05(MA0.15FA0.85)0.95Pb(I0.85Br0.15)3 | L50-C0.5 | 1.350 | 1:3 | 1:3 | 22.79 | 1.062 | 74.00 | 18.00 | 100nm | 10.1016/j.jmst.2022.05.038 |
|  |  | H20-C1 | 1.350 | 1:3 | 1:3 | 22.18 | 0.955 | 74.00 | 15.70 | 100nm | 10.1016/j.jmst.2022.05.038 |
| 304 | Cs0.22FA0.78PbI2.55-xBr0.45Clx | Control | 1.270 | 1:3 | 1:3 | 20.62 | 1.154 | 79.87 | 19.01 | 1um | 10.1016/j.cej.2023.143341 |
|  |  | ALH | 1.270 | 1:3 | 1:3 | 21.33 | 1.202 | 82.39 | 21.13 | 1um | 10.1016/j.cej.2023.143341 |
| 305 | RbCsFAMA | Control | 1.348 | 0.993:3 | 0.988:3 | 25.38 | 1.096 | 73.67 | 20.58 | 2um | 10.1016/j.nanoen.2022.108154 |
|  |  | APA | 1.348 | 0.993:3 | 0.988:3 | 25.66 | 1.147 | 81.27 | 23.92 | 2um | 10.1016/j.nanoen.2022.108154 |
| 306 | MAPbI3 | w/oGuaI | 1.330 | 1:3 | 1:3 | 22.01 | 1.050 | 69.00 | 15.98 | 200nm | 10.1016/j.solener.2018.10.036 |
| 307 | Cs0.05(FA0.83MA0.17)0.95Pb(I0.83Br0.17)3 | Control | 1.350 | 0.974:3 | 1.013:3 | 22.31 | 1.051 | 70.00 | 16.51 | 500nm | 10.1016/j.materresbull.2023.112345 |
|  |  | 1-ethyl-3-methylimidazoliumchloride | 1.350 | 0.974:3 | 1.013:3 | 24.39 | 1.131 | 74.40 | 20.52 | 500nm | 10.1016/j.materresbull.2023.112345 |
| 308 | FA0.85Cs0.15PbI3 | SnO2 | 1.302 | 1.022:3 | 1:3 | 23.47 | 1.018 | 72.76 | 17.39 | 2um | 10.1016/j.apsusc.2022.155745 |
|  |  | SnO2/DPC | 1.302 | 1.022:3 | 1:3 | 24.53 | 1.077 | 77.34 | 20.43 | 2um | 10.1016/j.apsusc.2022.155745 |
|  |  | SnO2/DPC/MPO | 1.302 | 1.022:3 | 1:3 | 25.26 | 1.134 | 80.48 | 23.05 | 2um | 10.1016/j.apsusc.2022.155745 |
| 309 | FA0.7MA0.3Pb0.5Sn0.5I3 | PEDOT:PSS | 1.361 | 1.007:3 | 0.622:3 | 29.77 | 0.696 | 75.52 | 15.65 | 1um | 10.1016/j.jallcom.2023.169801 |
|  |  | TPA-BBT | 1.361 | 1.007:3 | 0.622:3 | 29.32 | 0.735 | 73.57 | 15.85 | 1um | 10.1016/j.jallcom.2023.169801 |
| 310 |  | Control | 1.330 | 1:3 | 1:3 | 22.04 | 1.060 | 74.24 | 17.28 | 500nm | 10.1016/j.mssp.2022.107129 |
|  |  | 4mg/mlCMDR | 1.330 | 1:3 | 1:3 | 22.52 | 1.130 | 71.73 | 18.18 | 500nm | 10.1016/j.mssp.2022.107129 |
|  |  | 6mg/mLCMDR | 1.330 | 1:3 | 1:3 | 23.22 | 1.130 | 77.03 | 20.26 | 500nm | 10.1016/j.mssp.2022.107129 |
|  |  | 8mg/mLCMDR | 1.330 | 1:3 | 1:3 | 22.09 | 1.110 | 70.90 | 17.32 | 500nm | 10.1016/j.mssp.2022.107129 |
| 311 | Cs0.05(FA0.85MA0.15)0.95Pb(I0.85Br0.15)3 | Pristine | 1.385 | 1.261:3 | 0.87:3 | 21.62 | 1.070 | 75.56 | 17.56 | 200nm | 10.1016/j.mssp.2023.107454 |
|  |  | 0.5mg/mLKBr | 1.385 | 1.261:3 | 0.87:3 | 21.56 | 1.050 | 78.75 | 17.90 | 200nm | 10.1016/j.mssp.2023.107454 |
|  |  | 1.0mg/mLKBr | 1.385 | 1.261:3 | 0.87:3 | 22.56 | 1.080 | 78.76 | 19.21 | 200nm | 10.1016/j.mssp.2023.107454 |
|  |  | 2.0mg/mLKBr | 1.385 | 1.261:3 | 0.87:3 | 21.41 | 1.080 | 80.00 | 18.45 | 200nm | 10.1016/j.mssp.2023.107454 |
| 312 | (FAPbI3)0.925(MAPbBr3)0.05(CsPbI3)0.025 | HTAP | 1.362 | 1:3 | 1:3 | 24.86 | 1.190 | 78.46 | 23.14 | 400nm | 10.1016/j.cej.2022.139808 |
| 313 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 21.37 | 1.060 | 72.82 | 16.50 | 500nm | 10.1016/j.cej.2023.141573 |
|  |  | ZnPc | 1.330 | 1:3 | 1:3 | 22.44 | 1.100 | 75.12 | 18.54 | 500nm | 10.1016/j.cej.2023.141573 |
|  |  | H2Pc | 1.330 | 1:3 | 1:3 | 23.26 | 1.130 | 78.34 | 20.59 | 500nm | 10.1016/j.cej.2023.141573 |
| 314 | MAPb(Br0.12I0.88)3 | Control | 1.336 | 1:3 | 1:3 | 22.47 | 1.020 | 78.57 | 17.93 | 200nm | 10.1016/j.cej.2023.143446 |
|  |  | PbBr2 | 1.336 | 1:3 | 1:3 | 21.37 | 1.060 | 79.60 | 18.11 | 200nm | 10.1016/j.cej.2023.143446 |
| 315 | MA0.85FA0.15PbI3 | SnO2 | 1.337 | 1:3 | 1:3 | 23.68 | 1.090 | 76.68 | 19.76 | 500nm | 10.1016/j.cej.2023.143722 |
|  |  | SnO2-RbCl | 1.337 | 1:3 | 1:3 | 24.37 | 1.110 | 78.23 | 21.00 | 500nm | 10.1016/j.cej.2023.143722 |
| 316 | CH3NH3PbI3-xClx | Control | 1.345 | 0.920:3 | 1.039:3 | 18.79 | 1.070 | 71.00 | 14.20 | 1um | 10.1016/j.orgel.2018.05.044 |
|  |  | STAD | 1.345 | 0.920:3 | 1.039:3 | 20.47 | 1.060 | 72.00 | 15.70 | 1um | 10.1016/j.orgel.2018.05.044 |
| 317 | FA0.92MA0.08PbI3 | Pristine | 1.371 | 1:3 | 1:3 | 25.20 | 1.110 | 80.20 | 22.40 | 1um | 10.1016/j.joule.2022.12.013 |
|  |  | Pero-MOTC | 1.371 | 1:3 | 1:3 | 25.50 | 1.120 | 81.50 | 23.30 | 1um | 10.1016/j.joule.2022.12.013 |
|  |  | Pero-COETC | 1.371 | 1:3 | 1:3 | 25.30 | 1.150 | 82.90 | 24.10 | 1um | 10.1016/j.joule.2022.12.013 |
| 318 | FAPbI3 | Control | 1.374 | 1:3 | 1:3 | 25.91 | 1.140 | 80.17 | 23.68 | 2um | 10.1016/j.joule.2022.10.015 |
|  |  | KFSO | 1.374 | 1:3 | 1:3 | 26.05 | 1.170 | 83.67 | 25.50 | 2um | 10.1016/j.joule.2022.10.015 |
|  |  | KFPV | 1.374 | 1:3 | 1:3 | 26.06 | 1.160 | 81.62 | 24.67 | 2um | 10.1016/j.joule.2022.10.015 |
|  |  | KFSO/KFPV | 1.374 | 1:3 | 1:3 | 26.12 | 1.170 | 85.22 | 26.04 | 2um | 10.1016/j.joule.2022.10.015 |
| 319 | CH3NH3PbI3-xBrx | Pristine | 1.330 | 1.049:3 | 0.975:3 | 20.93 | 0.942 | 77.80 | 15.34 | 1um | 10.1016/j.orgel.2018.08.030 |
|  |  | withPCL | 1.330 | 1.049:3 | 0.975:3 | 22.93 | 0.970 | 78.10 | 17.38 | 1um | 10.1016/j.orgel.2018.08.030 |
| 320 | MAPbI3 | HTL1 | 1.330 | 1:3 | 1:3 | 21.64 | 1.020 | 70.10 | 15.41 | 500nm | 10.1016/j.orgel.2022.106692 |
|  |  | HTL2 | 1.330 | 1:3 | 1:3 | 22.09 | 1.050 | 79.36 | 18.27 | 500nm | 10.1016/j.orgel.2022.106692 |
| 321 | MAPbI3 | NiOx | 1.330 | 1:3 | 1:3 | 24.50 | 1.130 | 79.70 | 22.10 | 1um | 10.1016/j.nanoen.2023.108363 |
|  |  | 6FPPY | 1.330 | 1:3 | 1:3 | 24.90 | 1.180 | 81.30 | 23.90 | 1um | 10.1016/j.nanoen.2023.108363 |
| 322 | MAPbI3 | 0mg/mLGV | 1.330 | 1:3 | 1:3 | 22.77 | 1.060 | 68.94 | 16.61 | 1um | 10.1016/j.orgel.2022.106600 |
|  |  | 0.6mg/mLGV | 1.330 | 1:3 | 1:3 | 23.32 | 1.083 | 75.80 | 19.14 | 1um | 10.1016/j.orgel.2022.106600 |
|  |  | 0.8mg/mLGV | 1.330 | 1:3 | 1:3 | 22.40 | 1.080 | 72.88 | 17.57 | 1um | 10.1016/j.orgel.2022.106600 |
| 323 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 21.20 | 1.080 | 78.00 | 17.70 | 500nm | 10.1016/j.jechem.2021.11.006 |
|  |  | BPQD | 1.330 | 1:3 | 1:3 | 21.90 | 1.100 | 83.00 | 20.00 | 500nm | 10.1016/j.jechem.2021.11.006 |
| 324 | MAPbI3 | 250nmMAPbI3 | 1.330 | 0.638:3 | 1.181:3 | 21.88 | 1.036 | 79.00 | 17.90 | 200nm | 10.1016/j.xcrp.2022.100890 |
|  |  | 750nmMAPbI3 | 1.330 | 0.638:3 | 1.181:3 | 22.25 | 1.100 | 77.40 | 18.96 | 200nm | 10.1016/j.xcrp.2022.100890 |
| 325 | MAPbI3 | withoutPEO | 1.350 | 0.947:3 | 1.026:3 | 21.86 | 1.110 | 75.73 | 18.33 | 500nm | 10.1016/j.cej.2022.139988 |
|  |  | withPEO | 1.350 | 0.947:3 | 1.026:3 | 22.87 | 1.120 | 76.63 | 19.55 | 500nm | 10.1016/j.cej.2022.139988 |
|  |  | withPEOControl | 1.350 | 0.947:3 | 1.026:3 | 20.87 | 1.060 | 78.12 | 17.29 | 500nm | 10.1016/j.cej.2022.139988 |
|  |  | withPEOTPAB | 1.350 | 0.947:3 | 1.026:3 | 21.02 | 1.080 | 80.47 | 18.23 | 500nm | 10.1016/j.cej.2022.139988 |
| 326 | MAPbI3 | ITO | 1.330 | 1.004:3 | 0.998:3 | 19.83 | 1.022 | 72.80 | 14.75 | 500nm | 10.1016/j.cej.2021.133948 |
|  |  | ITO/FA | 1.330 | 1.004:3 | 0.998:3 | 21.26 | 1.064 | 73.88 | 16.71 | 500nm | 10.1016/j.cej.2021.133948 |
|  |  | ITO/TFA | 1.330 | 1.004:3 | 0.998:3 | 21.59 | 1.099 | 76.87 | 18.24 | 500nm | 10.1016/j.cej.2021.133948 |
|  |  | ITO/2TFA | 1.330 | 1.004:3 | 0.998:3 | 22.20 | 1.119 | 80.97 | 20.11 | 500nm | 10.1016/j.cej.2021.133948 |
| 327 | MAPbI3 | TiO2 | 1.330 | 1.005:3 | 0.998:3 | 22.30 | 1.070 | 69.21 | 16.45 | 200nm | 10.1016/j.solener.2021.11.074 |
|  |  | RbClTiO2 | 1.330 | 1.005:3 | 0.998:3 | 23.05 | 1.100 | 77.99 | 19.93 | 200nm | 10.1016/j.solener.2021.11.074 |
| 328 | MAPbI3 | Pristine | 1.330 | 1.004:3 | 0.998:3 | 21.12 | 1.050 | 76.16 | 16.89 | 500nm | 10.1016/j.apsusc.2022.153842 |
|  |  | 0.1wt%L-Asp/0.02wt%SG | 1.330 | 1.004:3 | 0.998:3 | 23.03 | 1.090 | 78.12 | 19.61 | 500nm | 10.1016/j.apsusc.2022.153842 |
| 329 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 21.36 | 1.080 | 67.83 | 15.64 | 1um | 10.1016/j.solener.2022.02.009 |
|  |  | EDTADM | 1.330 | 1:3 | 1:3 | 23.52 | 1.130 | 75.53 | 20.07 | 1um | 10.1016/j.solener.2022.02.009 |
| 330 | MAPbI3 | 0mg/mLGuaBF4 | 1.330 | 0.985:3 | 1.007:3 | 20.32 | 1.080 | 79.50 | 17.45 | 500nm | 10.1016/j.apsusc.2022.154362 |
|  |  | 0.5mg/mLGuaBF4 | 1.330 | 0.985:3 | 1.007:3 | 21.36 | 1.080 | 80.18 | 18.50 | 500nm | 10.1016/j.apsusc.2022.154362 |
|  |  | 1mg/mLGuaBF4 | 1.330 | 0.985:3 | 1.007:3 | 22.60 | 1.100 | 82.94 | 20.62 | 500nm | 10.1016/j.apsusc.2022.154362 |
|  |  | 1.5mg/mLGuaBF4 | 1.330 | 0.985:3 | 1.007:3 | 21.99 | 1.100 | 82.00 | 19.83 | 500nm | 10.1016/j.apsusc.2022.154362 |
| 331 | MAPbI3 | NiOx | 1.330 | 1:3 | 1:3 | 20.90 | 1.093 | 73.50 | 16.79 | 500nm | 10.1016/j.synthmet.2021.116986 |
|  |  | NiOx/PVA | 1.330 | 1:3 | 1:3 | 23.26 | 1.093 | 74.70 | 19.17 | 500nm | 10.1016/j.synthmet.2021.116986 |
| 332 | MAPbI3 | Pristine | 1.330 | 1.005:3 | 0.997:3 | 20.31 | 0.990 | 70.97 | 14.23 | 1um | 10.1016/j.jallcom.2022.163742 |
|  |  | 0.03wt%Ti3C2Tx | 1.330 | 1.005:3 | 0.997:3 | 22.94 | 0.990 | 73.22 | 16.67 | 1um | 10.1016/j.jallcom.2022.163742 |
|  |  | 0.0013wt%V2CTx | 1.330 | 1.005:3 | 0.997:3 | 22.31 | 1.010 | 73.14 | 16.51 | 1um | 10.1016/j.jallcom.2022.163742 |
| 333 | MAPbI3 | 0mol%MC | 1.330 | 1:3 | 1:3 | 19.14 | 0.913 | 75.00 | 13.12 | 1um | 10.1016/j.solener.2021.09.010 |
|  |  | 10mol%MC | 1.330 | 1:3 | 1:3 | 20.36 | 0.960 | 82.00 | 15.98 | 1um | 10.1016/j.solener.2021.09.010 |
| 334 | MAPbI3 | P0 | 1.330 | 1.004:3 | 0.998:3 | 22.06 | 1.077 | 71.83 | 17.09 | 500nm | 10.1016/j.solener.2021.03.055 |
|  |  | P4 | 1.330 | 1.004:3 | 0.998:3 | 23.37 | 1.098 | 75.60 | 19.42 | 500nm | 10.1016/j.solener.2021.03.055 |
| 335 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 18.52 | 0.890 | 65.29 | 10.75 | 1um | 10.1016/j.jpowsour.2021.230302 |
| 336 | MAPbI3 | Control | 1.330 | 0.997:3 | 1.001:3 | 22.70 | 1.050 | 71.46 | 17.04 | 1um | 10.1016/j.solener.2021.09.032 |
| 337 | MAPbI3 | Control | 1.330 | 1.005:3 | 0.997:3 | 21.97 | 1.025 | 73.94 | 16.65 | 1um | 10.1016/j.jpowsour.2021.229449 |
|  |  | c-PSCs | 1.330 | 1.005:3 | 0.997:3 | 22.15 | 1.077 | 76.61 | 18.28 | 1um | 10.1016/j.jpowsour.2021.229449 |
|  |  | m-PSCs | 1.330 | 1.005:3 | 0.997:3 | 22.67 | 1.083 | 79.79 | 19.59 | 1um | 10.1016/j.jpowsour.2021.229449 |
|  |  | f-PSCs | 1.330 | 1.005:3 | 0.997:3 | 22.81 | 1.085 | 79.84 | 19.75 | 1um | 10.1016/j.jpowsour.2021.229449 |
| 338 | MAPbI3 | 1-EA | 1.330 | 1:3 | 1:3 | 19.83 | 1.200 | 68.42 | 13.84 | 100nm | 10.1016/j.solener.2021.09.012 |
|  |  | 4-DE | 1.330 | 1:3 | 1:3 | 22.17 | 1.060 | 79.00 | 18.56 | 100nm | 10.1016/j.solener.2021.09.012 |
|  |  | 4-EA | 1.330 | 1:3 | 1:3 | 21.30 | 1.020 | 79.36 | 17.24 | 100nm | 10.1016/j.solener.2021.09.012 |
| 339 | MAPbI3 | PEDOT:PSS | 1.330 | 1:3 | 1:3 | 20.53 | 0.854 | 79.00 | 13.91 | 200nm | 10.1016/j.cej.2021.129823 |
|  |  | PTAA | 1.330 | 1:3 | 1:3 | 22.30 | 1.070 | 78.00 | 19.01 | 200nm | 10.1016/j.cej.2021.129823 |
|  |  | DI-1 | 1.330 | 1:3 | 1:3 | 22.60 | 1.015 | 72.00 | 16.60 | 200nm | 10.1016/j.cej.2021.129823 |
|  |  | PI-2 | 1.330 | 1:3 | 1:3 | 22.08 | 1.050 | 81.00 | 19.11 | 200nm | 10.1016/j.cej.2021.129823 |
| 340 | MAPbI3 | Control | 1.330 | 0.938:3 | 1.031:3 | 21.79 | 1.190 | 73.53 | 16.32 | 1um | 10.1016/j.nantod.2021.101164 |
|  |  | C60-PyF15 | 1.330 | 0.938:3 | 1.031:3 | 22.73 | 1.070 | 78.91 | 19.18 | 1um | 10.1016/j.nantod.2021.101164 |
|  |  | C60-PyH15 | 1.330 | 0.938:3 | 1.031:3 | 22.21 | 1.051 | 77.35 | 18.04 | 1um | 10.1016/j.nantod.2021.101164 |
| 341 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 21.07 | 0.980 | 73.00 | 15.07 | 400nm | 10.1016/j.apsusc.2020.148728 |
|  |  | 0.005MNbCl5 | 1.330 | 1:3 | 1:3 | 21.86 | 1.020 | 74.00 | 16.50 | 400nm | 10.1016/j.apsusc.2020.148728 |
|  |  | 0.020MNbCl5 | 1.330 | 1:3 | 1:3 | 20.78 | 1.000 | 70.00 | 14.55 | 400nm | 10.1016/j.apsusc.2020.148728 |
|  |  | 0.080MNbCl5 | 1.330 | 1:3 | 1:3 | 21.01 | 0.970 | 69.00 | 14.06 | 400nm | 10.1016/j.apsusc.2020.148728 |
|  |  | 0.160MNbCl5 | 1.330 | 1:3 | 1:3 | 21.06 | 0.920 | 70.00 | 13.56 | 400nm | 10.1016/j.apsusc.2020.148728 |
| 342 | MAPbI3 | NiOx | 1.330 | 1:3 | 1:3 | 20.51 | 1.061 | 75.30 | 16.68 | 1um | 10.1016/j.apsusc.2021.149117 |
|  |  | NiOx/CuOx | 1.330 | 1:3 | 1:3 | 21.85 | 1.112 | 78.10 | 19.37 | 1um | 10.1016/j.apsusc.2021.149117 |
| 343 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 19.82 | 1.080 | 78.00 | 16.86 | 100nm | 10.1016/j.apsusc.2021.149276 |
|  |  | PEI-1800 | 1.330 | 1:3 | 1:3 | 20.32 | 1.120 | 79.00 | 18.02 | 100nm | 10.1016/j.apsusc.2021.149276 |
|  |  | PEI-10000 | 1.330 | 1:3 | 1:3 | 21.16 | 1.130 | 80.00 | 19.23 | 100nm | 10.1016/j.apsusc.2021.149276 |
|  |  | PEI-70000 | 1.330 | 1:3 | 1:3 | 20.03 | 1.100 | 78.00 | 17.32 | 100nm | 10.1016/j.apsusc.2021.149276 |
| 344 | MAPbI3 | TiO2 | 1.330 | 1:3 | 1:3 | 22.47 | 1.090 | 76.81 | 17.98 | 1um | 10.1016/j.apsusc.2020.148583 |
|  |  | SP-TiO2 | 1.330 | 1:3 | 1:3 | 23.41 | 1.110 | 78.70 | 20.43 | 1um | 10.1016/j.apsusc.2020.148583 |
| 345 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 22.50 | 0.991 | 77.30 | 17.30 | 500nm | 10.1016/j.nanoen.2021.106484 |
|  |  | SiNPssmall | 1.330 | 1:3 | 1:3 | 22.30 | 1.000 | 77.80 | 17.40 | 500nm | 10.1016/j.nanoen.2021.106484 |
| 346 | MAPbI3 | F-PSC | 1.330 | 1:3 | 1:3 | 21.45 | 1.050 | 77.60 | 17.46 | 2um | 10.1016/j.xcrp.2021.100341 |
|  |  | R-PSC | 1.330 | 1:3 | 1:3 | 22.26 | 1.050 | 75.40 | 17.90 | 2um | 10.1016/j.xcrp.2021.100341 |
| 347 | MAPbI3 | MAPbI3 | 1.330 | 1:3 | 1:3 | 21.74 | 1.090 | 73.25 | 17.41 | 1um | 10.1016/j.jechem.2020.12.035 |
|  |  | PRMT | 1.330 | 1:3 | 1:3 | 21.92 | 1.090 | 75.55 | 18.05 | 1um | 10.1016/j.jechem.2020.12.035 |
|  |  | ETMT | 1.330 | 1:3 | 1:3 | 22.50 | 1.090 | 77.00 | 18.88 | 1um | 10.1016/j.jechem.2020.12.035 |
|  |  | PHMT | 1.330 | 1:3 | 1:3 | 23.33 | 1.100 | 80.79 | 20.72 | 1um | 10.1016/j.jechem.2020.12.035 |
| 348 | MAPbI3 | Control | 1.330 | 1:3 | 1:3 | 22.39 | 1.130 | 70.00 | 17.85 | 1um | 10.1016/j.surfin.2021.101213 |
|  |  | MPMpassivated | 1.330 | 1:3 | 1:3 | 22.68 | 1.150 | 76.00 | 19.71 | 1um | 10.1016/j.surfin.2021.101213 |
| 349 | MAPbI3 | Control | 1.330 | 0.956:3 | 1.022:3 | 21.83 | 1.075 | 79.67 | 18.70 | 200nm | 10.1016/j.nanoen.2020.105505 |
|  |  | 0.001wt%TBAPF6 | 1.330 | 0.956:3 | 1.022:3 | 22.60 | 1.094 | 81.07 | 20.08 | 200nm | 10.1016/j.nanoen.2020.105505 |
|  |  | 0.01wt%TBAPF6 | 1.330 | 0.956:3 | 1.022:3 | 23.45 | 1.103 | 82.50 | 21.23 | 200nm | 10.1016/j.nanoen.2020.105505 |
|  |  | 0.1wt%TBAPF6 | 1.330 | 0.956:3 | 1.022:3 | 23.41 | 1.097 | 80.12 | 20.58 | 200nm | 10.1016/j.nanoen.2020.105505 |
| 350 | MAPbI3 | Pristine | 1.330 | 0.968:3 | 1.016:3 | 22.39 | 1.100 | 72.97 | 18.02 | 400nm | 10.1016/j.cej.2021.129579 |
|  |  | 0.01mg/mLABSA | 1.330 | 0.968:3 | 1.016:3 | 22.45 | 1.110 | 74.25 | 18.57 | 400nm | 10.1016/j.cej.2021.129579 |
| 351 | MAPbI3 | Pristine | 1.330 | 1:3 | 1:3 | 22.23 | 0.980 | 69.67 | 14.68 | 200nm | 10.1016/j.orgel.2020.106009 |
|  |  | 0.01mol/LPb[N(CN)2]2 | 1.330 | 1:3 | 1:3 | 22.53 | 0.990 | 70.48 | 15.63 | 200nm | 10.1016/j.orgel.2020.106009 |
|  |  | 0.05mol/LPb[N(CN)2]2 | 1.330 | 1:3 | 1:3 | 22.95 | 1.010 | 72.13 | 16.51 | 200nm | 10.1016/j.orgel.2020.106009 |
|  |  | 0.1mol/LPb[N(CN)2]2 | 1.330 | 1:3 | 1:3 | 23.18 | 1.020 | 73.59 | 16.89 | 200nm | 10.1016/j.orgel.2020.106009 |
|  |  | 0.2mol/LPb[N(CN)2]2 | 1.330 | 1:3 | 1:3 | 23.68 | 1.050 | 74.37 | 17.35 | 200nm | 10.1016/j.orgel.2020.106009 |
| 352 | MAPbI3 | Control | 1.330 | 0.962:3 | 1.019:3 | 22.33 | 1.063 | 76.24 | 18.10 | 100nm | 10.1016/j.jechem.2020.06.061 |
|  |  | Betulin | 1.330 | 0.962:3 | 1.019:3 | 23.21 | 1.096 | 80.75 | 20.54 | 100nm | 10.1016/j.jechem.2020.06.061 |
| 353 | MAPbI3 | 0.00%PPNNA | 1.330 | 1:3 | 1:3 | 23.40 | 1.080 | 72.00 | 18.20 | 500nm | 10.1016/j.cej.2020.128068 |
|  |  | 0.20%PPNNA | 1.330 | 1:3 | 1:3 | 23.20 | 1.110 | 74.30 | 19.20 | 500nm | 10.1016/j.cej.2020.128068 |
|  |  | 0.40%PPNNA | 1.330 | 1:3 | 1:3 | 23.80 | 1.120 | 76.00 | 20.20 | 500nm | 10.1016/j.cej.2020.128068 |
|  |  | 0.80%PPNNA | 1.330 | 1:3 | 1:3 | 23.50 | 1.110 | 71.00 | 19.20 | 500nm | 10.1016/j.cej.2020.128068 |
| 354 | MAPbI3 | PCBM | 1.330 | 1:3 | 1:3 | 19.95 | 1.040 | 75.22 | 15.60 | 500nm | 10.1016/j.cej.2021.128816 |
|  |  | PCBM/C60-MPE-ionene | 1.330 | 1:3 | 1:3 | 22.15 | 1.100 | 79.15 | 19.28 | 500nm | 10.1016/j.cej.2021.128816 |