Supporting Information

Correlation of device performance and Fermi level shift in the emitting layer of organic light-emitting diodes with amine-based electron injection layers

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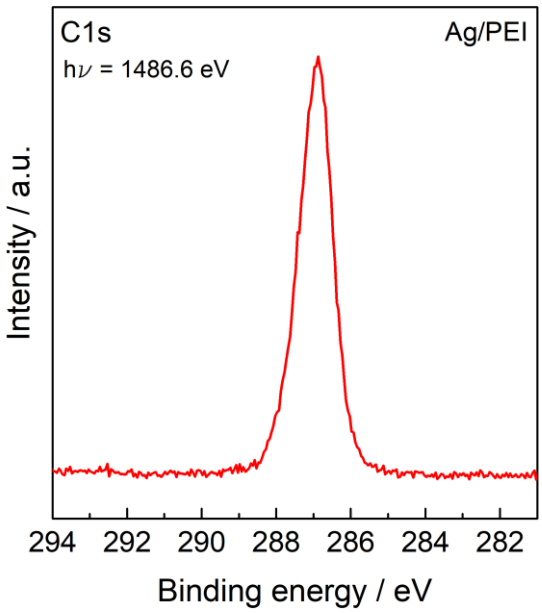

Figure S1. C1s core level emission of a PEI film of a nominal thickness of about 10 nm on an Ag substrate. As all carbon atoms of PEI have the same oxidation state (see Figure 1a in the main text), only one component is observed in the spectrum.

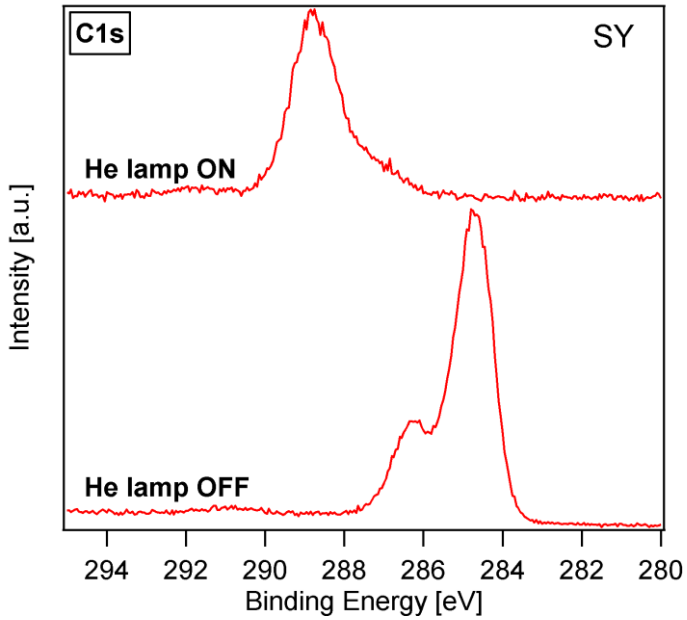

Figure S2. C1s XP core level emissions of a SY sample. The spectra show the influence of the helium I radiation (hν = 21.22eV) from a helium discharge lamp which is typically used for UP measurements on the electric surface potential. The lower spectrum is taken without additional UV light irradiation. During measurement of the upper spectrum the discharge lamp additionally illuminates the sample. While the spectrum without additional UV illumination shows the typical sharp SY features, the additionally illuminated sample exhibits a very broad and unstructured emission and an energetic shift to higher binding energies of approximately 5eV. This behavior is typical for surface charging which is induced by the additional UV light in this case. As a result, the measurement of the work function as well as

the HOMO onset of SY films by UPS leads to very doubtful values since the surface potential is superposed by the charging effect induced by the UV light. Therefore, the work-function of SY films was determined by the XPS secondary edge cutoffs in this work. The HOMO onset, however, could not be accurately determined by XPS because (compared with UV radiation), for X-rays the cross section of the respective photo ionization process is too low for a successful detection.

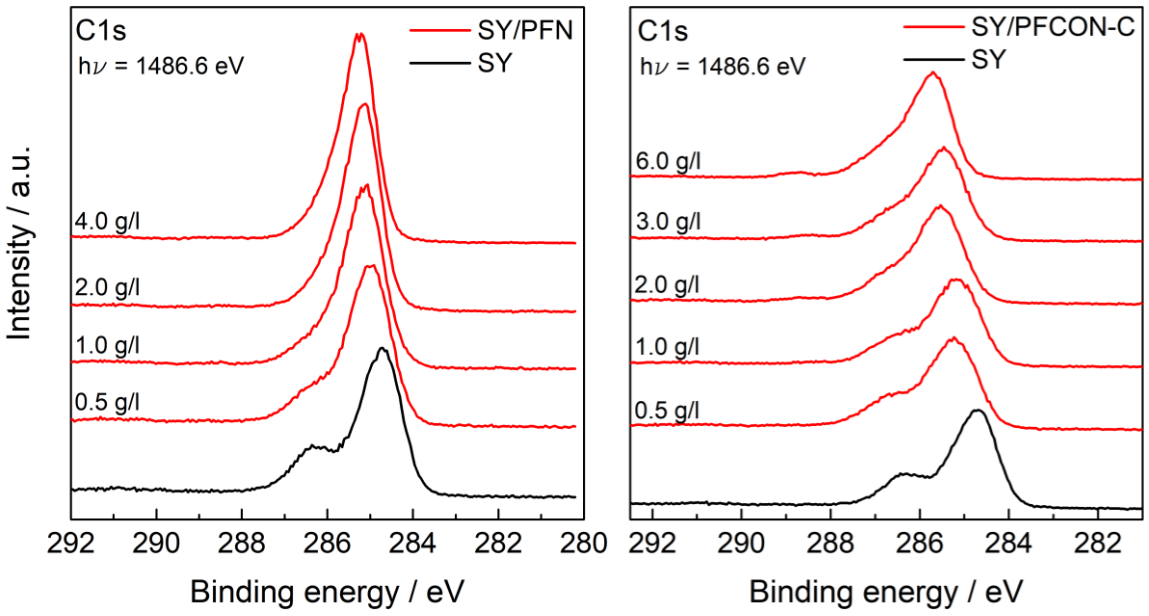

Figure S3. C1s core level emissions of SY/PFN and SY/PFCON-C samples. As SY as well as both polyfluorenes contain carbon, the measured spectra are a superposition of the C1s signals of SY and PFN / PFCON-C. Although this makes a detailed interpretation difficult, the spectra tend to move to larger binding energies with increasing polyfluorene thickness.