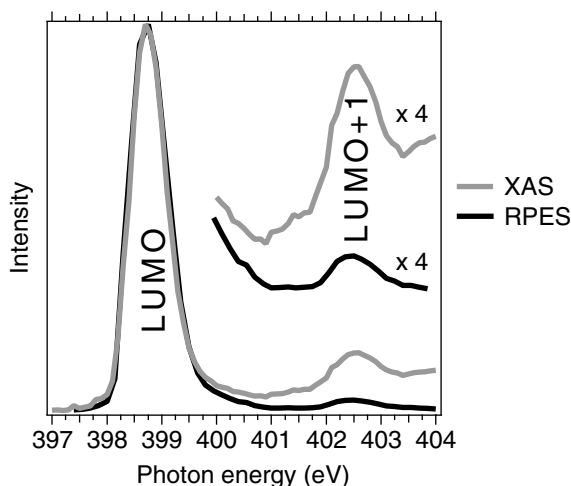


# Multilayer bi-isonicotinic acid

## Resonant photoemission



The RPES measurements presented here have been performed on a multilayer of bi-isonicotinic acid. Based on calculations for an isolated molecule,<sup>24</sup> we assume that the multilayer constitutes a good approximation to an isolated molecule, from which no excited electron transfer occurs. The LUMO+1 and LUMO+2 states of the monolayer correspond to the LUMO+1 of the multilayer, and the splitting is due to the substrate interaction.<sup>24</sup> The relative sensitivity of the RPES in comparison to XAS is reduced for the LUMO+1, and the LUMO+1-intensity ratio  $C$  between the RPES and the XAS, that amounts to approximately  $1/3$ , gives a measure of this sensitivity. We attribute this reduction to a lower spatial overlap with the relevant occupied levels (here the two highest occupied valence states, the HOMO and the HOMO-1), and hence lower Auger matrix element, for the LUMO+1 relative to the LUMO. This is expected based on simple pseudopotential arguments, and has been observed for many other aromatic molecules. Taking this factor into account allows the isolation of the effects of interaction, i.e., the charge transfer event, on the spectra of the monolayer.