SUPPLEMENTAL FIGURE FOR (NS13+: Chem Ident w SPM)

Identifying potential carbon sources for direct carbon material production by AI assisted HR-AFM

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Supplemental figures for plain abstract text

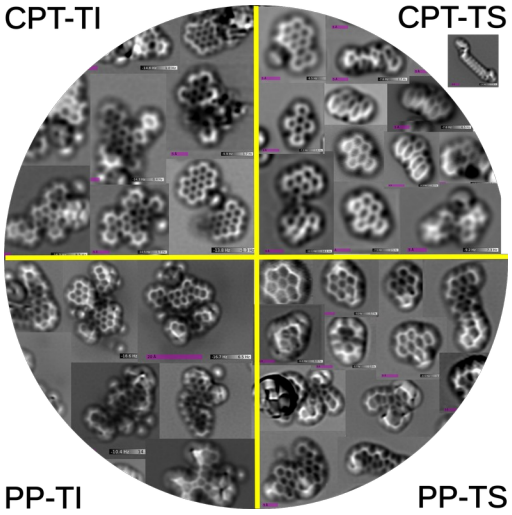

Fig 1.: We explored four classes derived from Petroleum Pitch (PP) and Coal Pitch Tar (CPT), separated into toluene soluble (TS) and toluene insoluble (TI) fractions. And acquired HR-AFM images of more than 40 molecules each using our new AI assisted and fully automated SPM control.

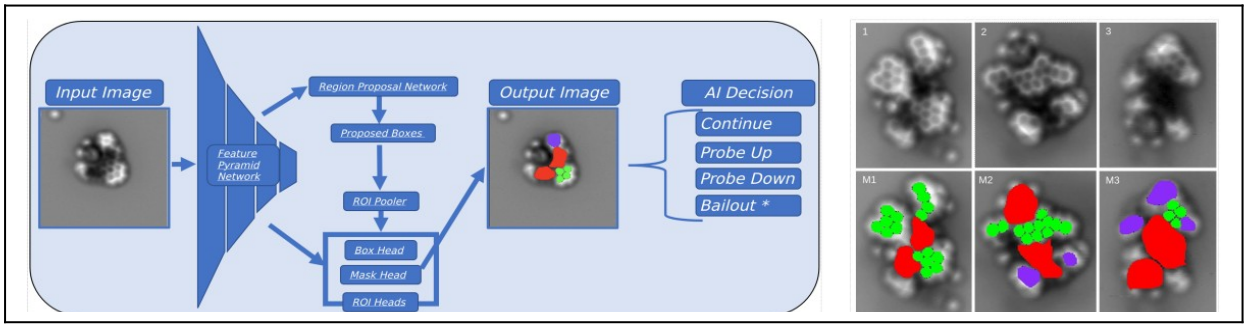

Fig. 2: Architecture of the AI decision-making script showing all the parts of the machine learning model based on “Detectron2”. Molecules are selected and centered by a script, but the key work to find the most meaningful imaging height is determined using our AI model together with a “metric of interest” based on molecule regions identified been “ideal” (green), “too far” (red) or “too close” (or non planar) (purple).

References

[1] Yunlong Zhang, Energy & Fuels **35** (18), 14422 (2021)