

Supplementary File

Optimization of photocurrent response of atomic layer deposited $\text{Ti}_x\text{Fe}_{2-x}\text{O}_3$ photoanodes

Anjan Deb, Anton Vihervaara, Georgi Popov, Mykhailo Chundak, Mikko Heikkilä, Marianna Kemell, Mikko Ritala and Matti Putkonen

Department of Chemistry, University of Helsinki, P.O. Box 55, FI-00014 Helsinki, Finland.

References

Leskelä, M., & Ritala, M. (2002). Atomic layer deposition (ALD): from precursors to thin film structures. *Thin Solid Films*, 409(1), 138-146.

Liu, H., Fan, X., Li, Y., Guo, H., Jiang, W., & Liu, G. (2023). Hematite-based photoanodes for photoelectrochemical water splitting: Performance, understanding, and possibilities. *Journal of Environmental Chemical Engineering*, 11, 109224.

Table 1: Experimental variables and their levels used in FC-CCD

Independent variables	Symbol	Lower level (-1)	Central point (0)	Higher level (+1)
Cycle Ratio (Ti:Fe)	CR	1/34	1/19	1/4
Total no. of Cycles	TC	140	560	980
Deposition Temperature, °C	DT	250	275	300

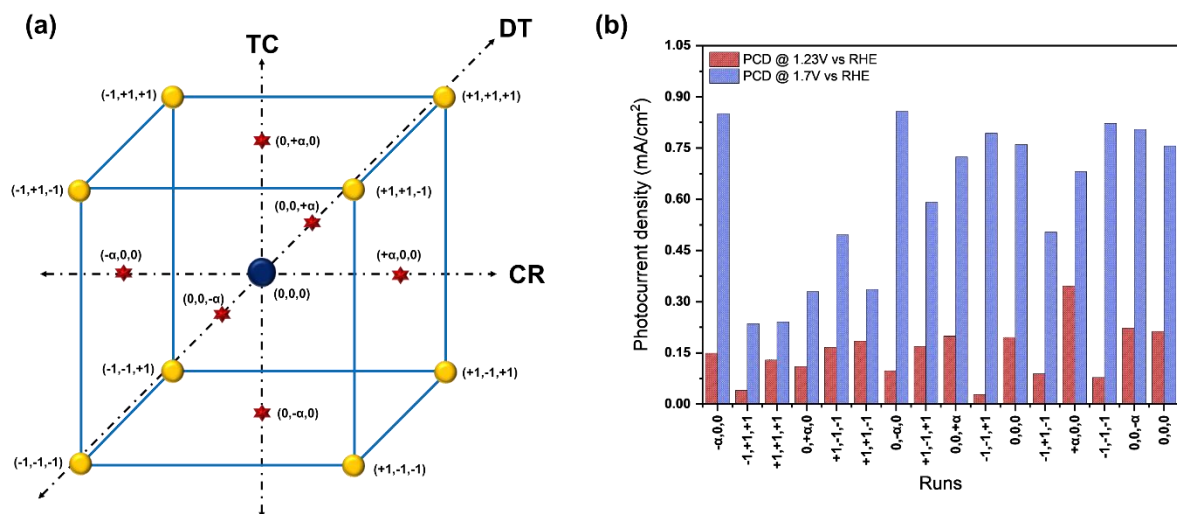


Figure 1: Graphical representation of experimental design points (a) and corresponding responses (b).

Supplementary File

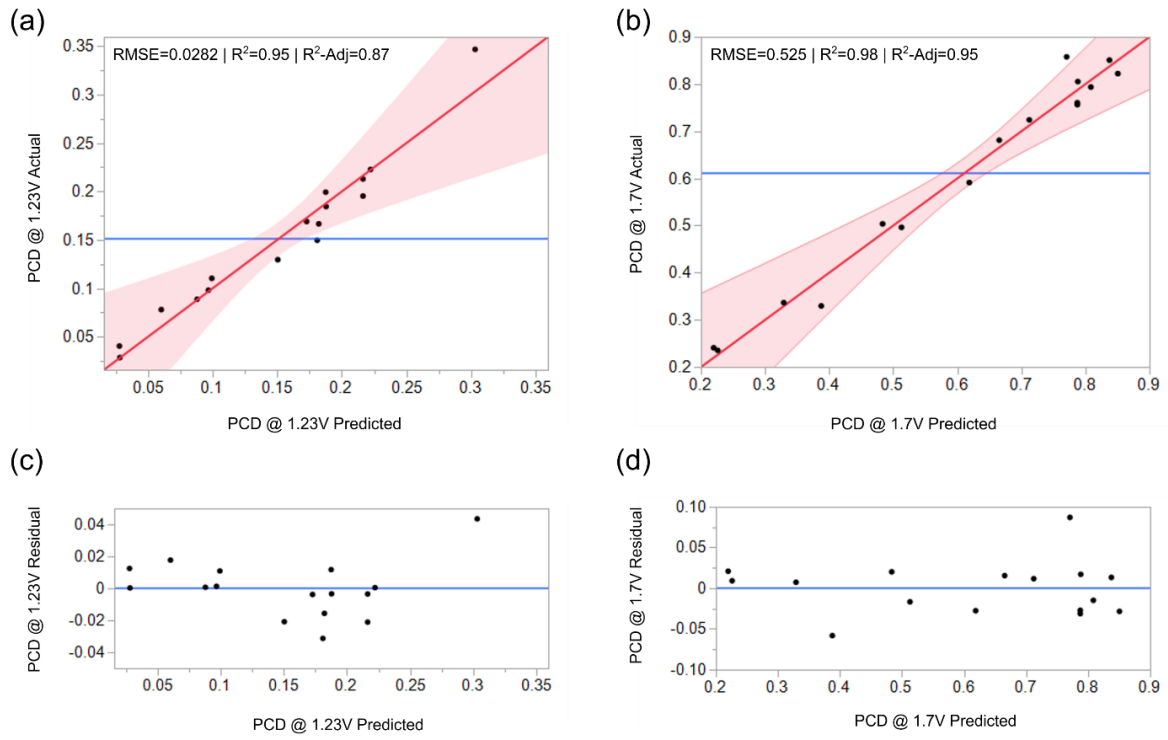


Figure 2: Actual vs predicted values of PCDs and residuals.