Temperature Dependence of Henry's Law Constant for Hydrogen Cyanide. Generation of Trace Standard Gaseous Hydrogen Cyanide.

Jian Ma and Purnendu K. Dasgupta*
Department of Chemistry and Biochemistry
University of Texas, 700 Planetarium Place, Arlington, TX 76019-0065.
Phone: 817-272-3171, Fax: 817-272-3808, Email: Dasgupta@uta.edu

William Blackledge and Gerry R. Boss
Department of Medicine, University of California, San Diego, La Jolla, CA 92093-0652

Supporting Information

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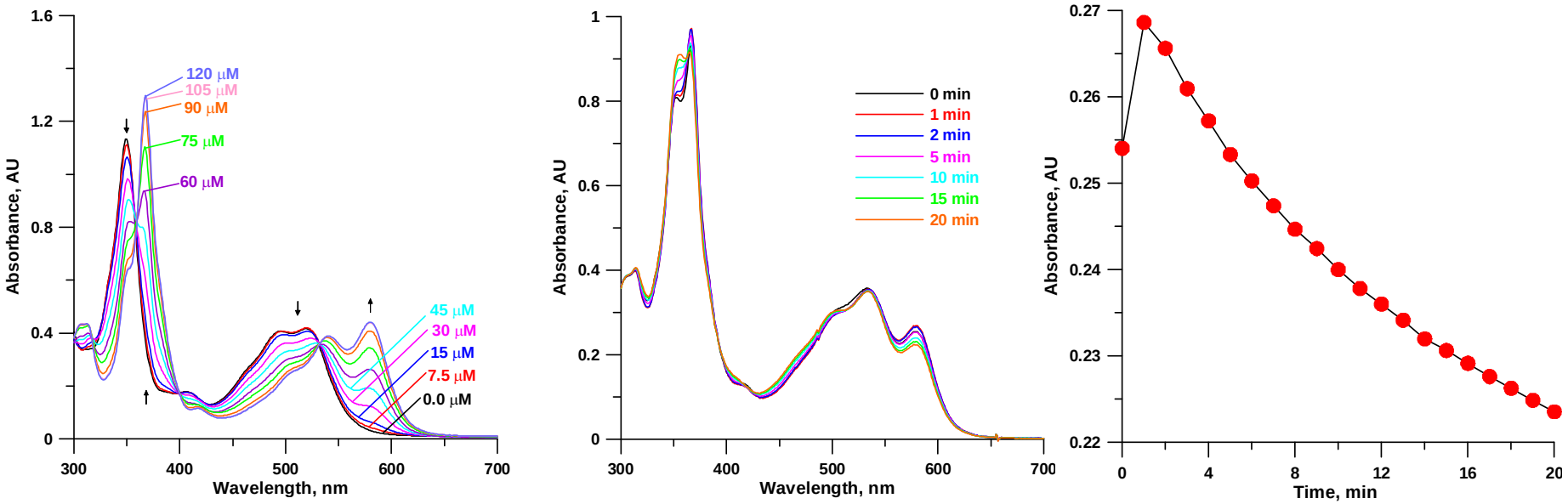

Figure S1. 50 μM Cobinamide in water reacting with cyanide. Left: Spectral change upon reaction with 0-120 μM cyanide; spectra taken 60 s after the reaction was initiated. Middle: Spectral change at different times after the reaction was initiated with 60 μM cyanide. Right: Same as in middle, A_{580nm} as a function of time.

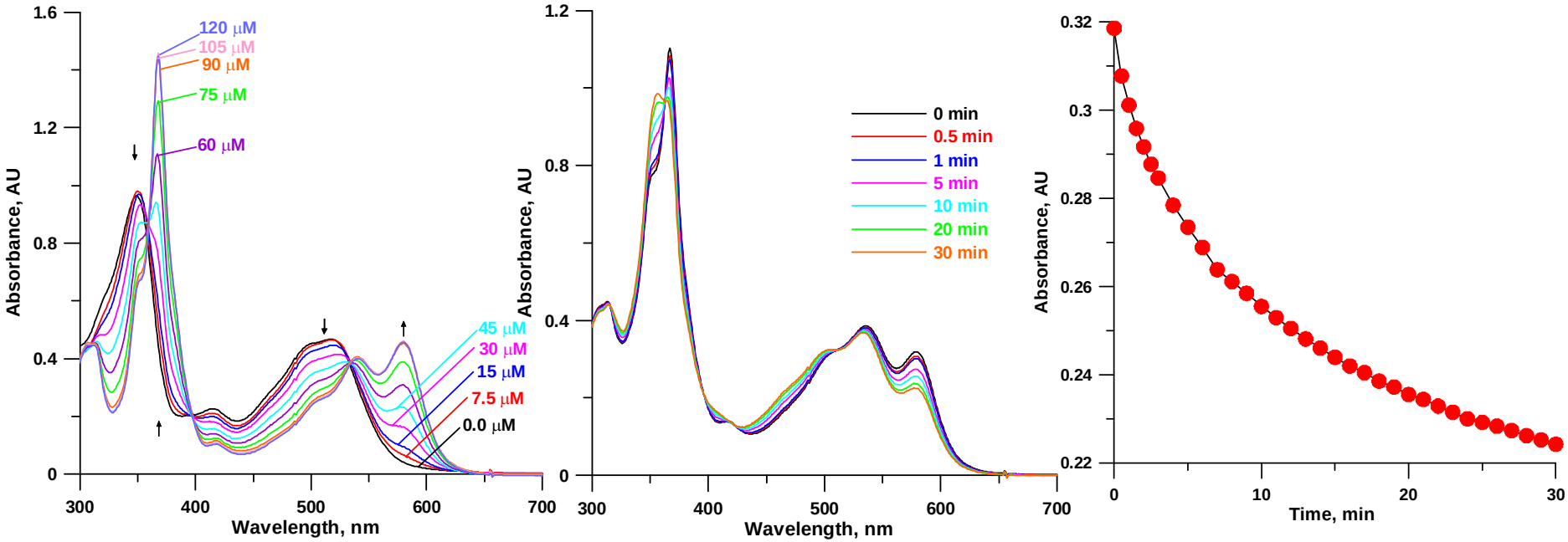

Figure S2. Identical to Figure S1, except reaction medium 0.1 M Na-phosphate buffer solution (pH 9.00).

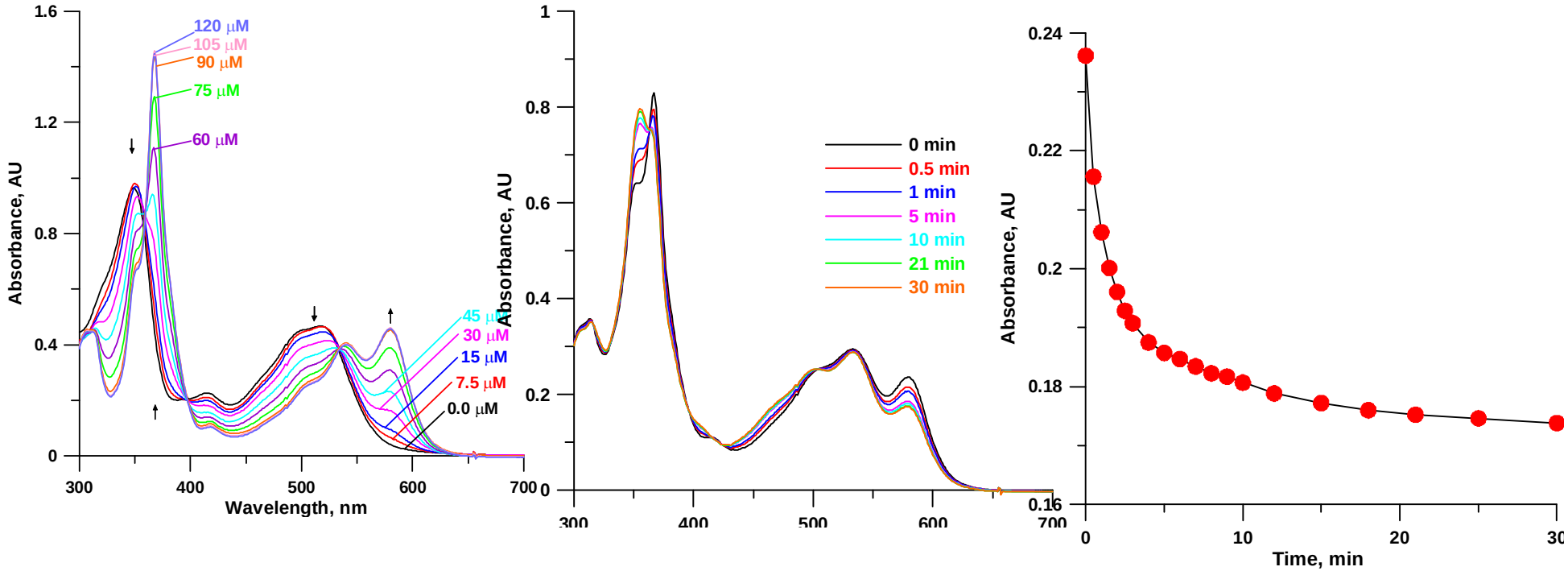

Figure S3. Identical to Figure S1, except reaction medium 0.1 M Na-borate buffer solution (pH 9.00).

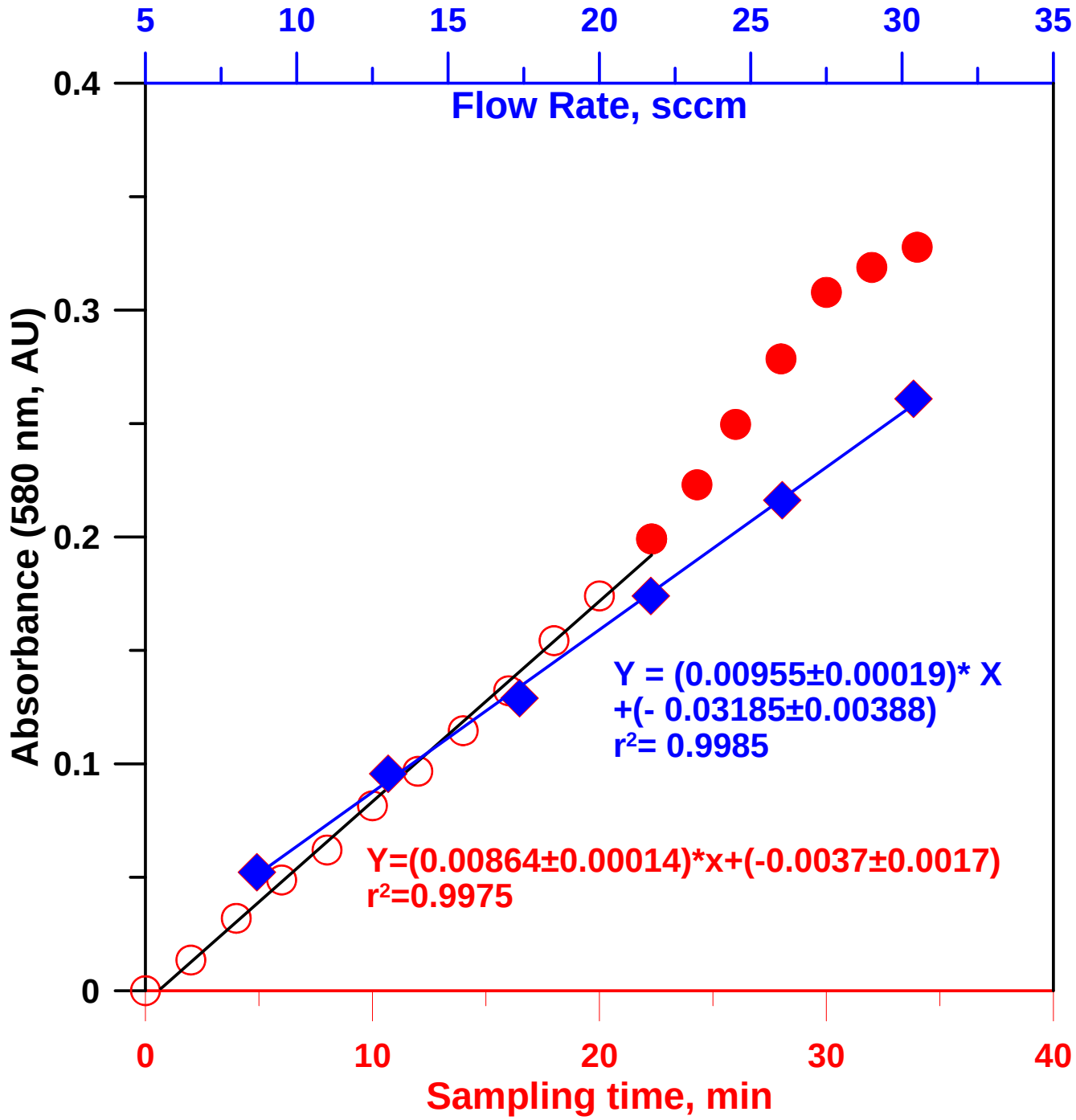

Figure S4. Red Curve: Bottom Abscissa: Absorbance change at 580 nm as a function of sampling time using 50 μM cobinamide in 60 mM NaOH as absorber. Generation solution ~0.6 mM total cyanide, 18.8 °C. gas flow rate 21.7 sccm, ~25 nmol/min HCN entering absorber. Note that the slope changes after 20 min when dicyanocobinamide begins to be formed. Blue curve: Top Abscissa: Absorbance change at 580 nm as a function of gas flow rate, 20 min sampling time, other conditions same as above.

Table S1. Calibration curves at different reaction time

Reaction time, min	Calibration curve (n=6)	r^2
0	Abs=(1.52±0.06)*C (mM)	0.9901
1	Abs=(3.39±0.04)*C (mM)	0.9994
2	Abs=(3.81±0.04)*C (mM)	0.9994
3	Abs=(4.01±0.04)*C (mM)	0.9995
5	Abs=(4.16±0.05)*C (mM)	0.9993
10	Abs=(4.22±0.08)*C (mM)	0.9982
15	Abs=(4.19±0.10)*C (mM)	0.9973
20	Abs=(4.20±0.12)*C (mM)	0.9960

There was no significant improvement in the linear r^2 values when an intercept was allowed. Regression equations forced through zero are therefore given.