

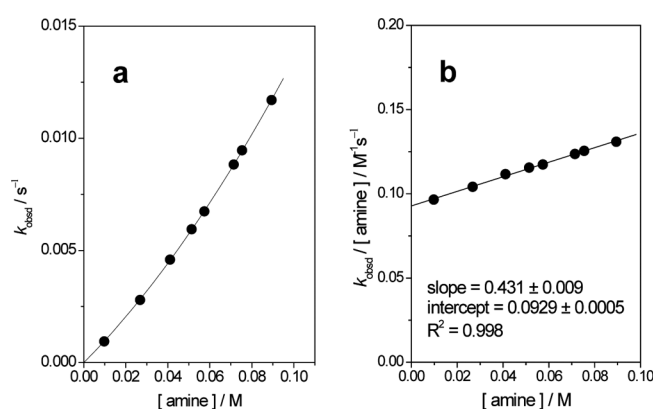
## Supporting Information

Kinetic Study on Aminolysis of 4-Nitrophenyl Isonicotinate in Acetonitrile:  
Effect of Amine Basicity on Reactivity and Reaction MechanismMinah Shin,<sup>†</sup> Min-Young Kim, and Ik-Hwan Um<sup>\*</sup>

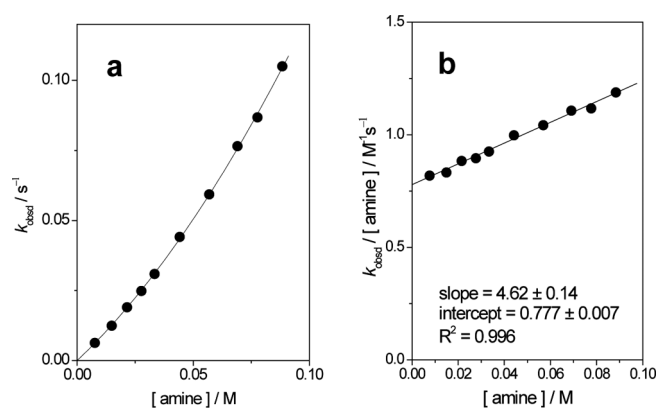
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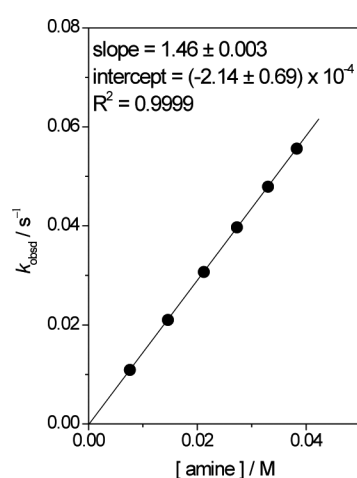
Received March 12, 2014, Accepted March 28, 2014



**Figures S1.** Plot of  $k_{\text{obsd}}$  vs.  $[\text{amine}]$  (a) and  $k_{\text{obsd}}/[\text{amine}]$  vs.  $[\text{amine}]$  (b) for the reaction of 4-nitrophenyl isonicotinate with 1-(2-hydroxyethyl)piperazine in MeCN at  $25.0 \pm 0.1$  °C.



**Figures S2.** Plot of  $k_{\text{obsd}}$  vs.  $[\text{amine}]$  (a) and  $k_{\text{obsd}}/[\text{amine}]$  vs.  $[\text{amine}]$  (b) for the reaction of 4-nitrophenyl isonicotinate with piperazine in MeCN at  $25.0 \pm 0.1$  °C.



**Figure S3.** Plot of  $k_{\text{obsd}}$  vs.  $[\text{amine}]$  for the reaction of 4-nitrophenyl isonicotinate with 3-methylpiperidine in MeCN at  $25.0 \pm 0.1$  °C.

**Table S1.** Kinetic Results for the Reaction of 4-Nitrophenyl Isonicotinate (7) with Morpholine in MeCN at  $25.0 \pm 0.1$  °C

Entry	$[\text{amine}] / \text{mM}$	$10^3 k_{\text{obsd}} / \text{s}^{-1}$
1	13.5	0.217
2	25.9	0.446
3	39.8	0.723
4	49.6	0.946
5	63.2	1.31
6	74.5	1.63
7	83.1	1.86
8	94.0	2.18

**Table S2.** Kinetic Results for the Reaction of 4-Nitrophenyl Isonicotinate (**7**) with 1-(2-Hydroxyethyl)piperazine in MeCN at  $25.0 \pm 0.1$  °C

Entry	[amine]/mM	$10^3 k_{\text{obsd}}/\text{s}^{-1}$
1	9.78	0.944
2	26.8	2.79
3	41.1	4.59
4	51.4	5.94
5	57.4	6.74
6	71.4	8.83
7	75.4	9.46
8	89.4	11.7

**Table S3.** Kinetic Results for the Reaction of 4-Nitrophenyl Isonicotinate (**7**) with Piperazine in MeCN at  $25.0 \pm 0.1$  °C

Entry	[amine]/mM	$10^3 k_{\text{obsd}}/\text{s}^{-1}$
1	7.66	6.27
2	14.9	12.4
3	21.5	19.0
4	27.7	24.8
5	33.4	30.9
6	44.2	44.1
7	56.9	59.3
8	69.1	76.5
9	77.7	86.8
10	88.4	105

**Table S4.** Kinetic Results for the Reaction of 4-Nitrophenyl Isonicotinate (**7**) with 3-Methylpiperidine in MeCN at  $25.0 \pm 0.1$  °C

Entry	[amine]/mM	$10^3 k_{\text{obsd}}/\text{s}^{-1}$
1	7.60	10.9
2	14.6	21.0
3	21.2	30.7
4	27.3	39.7
5	33.0	47.9
6	38.3	55.6

slope =  $1.46 \pm 0.003 \text{ M}^{-1}\text{s}^{-1}$ ;  $R^2 = 0.9999$ **Table S5.** Kinetic Results for the Reaction of 4-Nitrophenyl Isonicotinate (**7**) with Piperidine in MeCN at  $25.0 \pm 0.1$  °C

Entry	[amine]/mM	$10^3 k_{\text{obsd}}/\text{s}^{-1}$
1	7.68	16.4
2	14.8	31.4
3	21.4	45.0
4	27.6	58.1
5	33.3	69.1
6	39.1	81.3
7	44.8	93.0
8	50.9	106

slope =  $2.06 \pm 0.006 \text{ M}^{-1}\text{s}^{-1}$ ;  $R^2 = 0.9999$