

## SUPPORTING INFORMATION

### Concerted Pyridinolysis of Aryl 2,4,6-Trinitrophenyl Carbonates

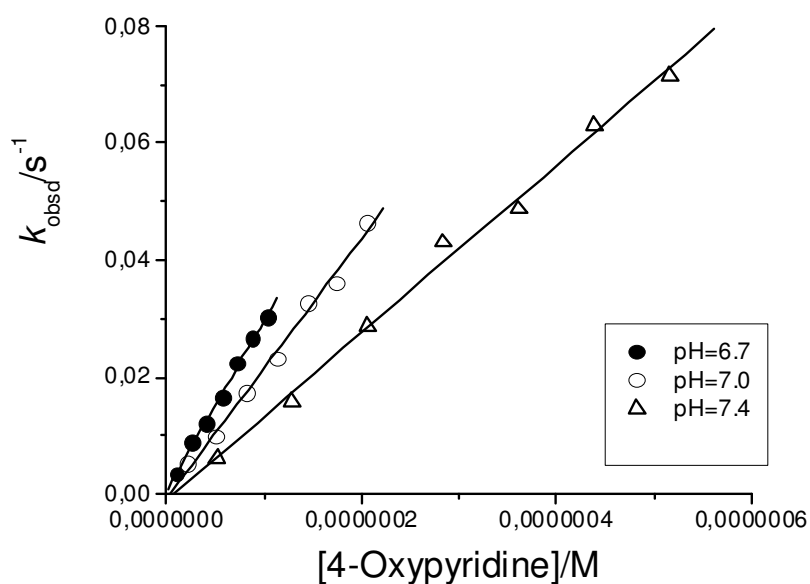
Enrique A. Castro,\* Mariela Ramos, and José G. Santos\*

#### TABLE OF CONTENTS

|                                                                      | PAGE |
|----------------------------------------------------------------------|------|
| TABLE S1                                                             | 2    |
| TABLE S2                                                             | 7    |
| TABLE S3                                                             | 12   |
| <sup>1</sup> H and <sup>13</sup> C-NMR spectra of carbonate <b>6</b> | 17   |
| <sup>1</sup> H and <sup>13</sup> C-NMR spectra of carbonate <b>7</b> | 18   |
| <sup>1</sup> H and <sup>13</sup> C-NMR spectra of carbonate <b>8</b> | 19   |

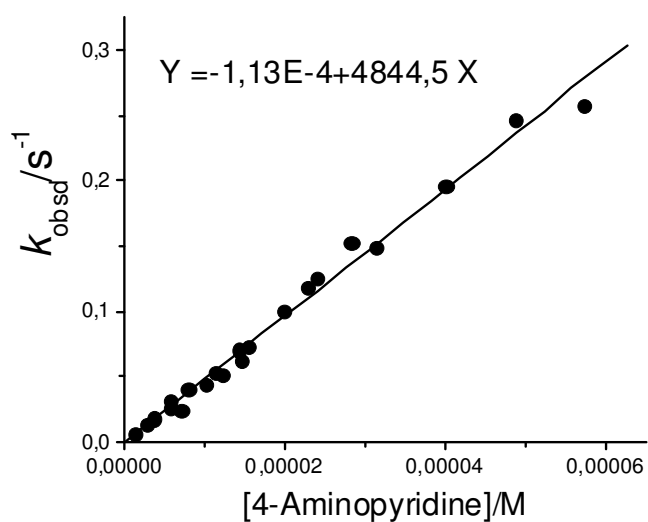
TABLE S1 . Kinetic Results for the Reactions of Carbonate **6**. Reaction with. 4-Oxypyridine <sup>a</sup>

| pH  | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^7 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 6.7 | 0,658                            | 0,104               | 0,346                                |
| 6.7 | 1,64                             | 0,259               | 0,909                                |
| 6.7 | 2,63                             | 0,415               | 1,22                                 |
| 6.7 | 3,61                             | 0,570               | 1,66                                 |
| 6.7 | 4,60                             | 0,726               | 2,25                                 |
| 6.7 | 5,58                             | 0,881               | 2,68                                 |
| 6.7 | 6,58                             | 1,04                | 3,03                                 |
| 7   | 0,65                             | 0,205               | 0,525                                |
| 7   | 1,63                             | 0,514               | 0,992                                |
| 7   | 2,61                             | 0,822               | 1,74                                 |
| 7   | 3,59                             | 1,13                | 2,33                                 |
| 7   | 4,57                             | 1,44                | 3,26                                 |
| 7   | 5,56                             | 1,75                | 3,61                                 |
| 7   | 6,51                             | 2,05                | 4,64                                 |
| 7.4 | 0,652                            | 0,516               | 0,625                                |
| 7.4 | 1,63                             | 1,29                | 1,589                                |
| 7.4 | 2,60                             | 2,06                | 2,89                                 |
| 7.4 | 3,59                             | 2,84                | 4,30                                 |
| 7.4 | 4,56                             | 3,61                | 4,87                                 |
| 7.4 | 5,55                             | 4,39                | 6,31                                 |
| 7.4 | 6,52                             | 5,16                | 7,15                                 |



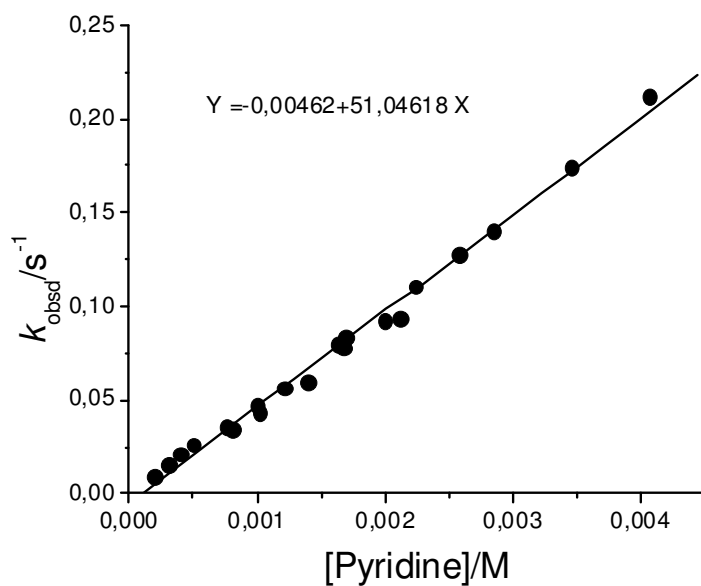
Reaction with 4-Aminopyridine <sup>a</sup>

| pH  | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^6 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 6.4 | 0,435                            | 1,45                | 0,68                                 |
| 6.4 | 1,09                             | 3,62                | 1,82                                 |
| 6.4 | 1,74                             | 5,8                 | 2,68                                 |
| 6.4 | 2,39                             | 7,97                | 4,02                                 |
| 6.4 | 3,03                             | 10,1                | 4,48                                 |
| 6.4 | 3,69                             | 12,3                | 5,11                                 |
| 6.4 | 4,35                             | 14,5                | 6,22                                 |
| 6.7 | 0,566                            | 2,83                | 1,39                                 |
| 6.7 | 1,41                             | 7,07                | 2,39                                 |
| 6.7 | 2,26                             | 11,3                | 5,38                                 |
| 6.7 | 3,12                             | 15,6                | 7,26                                 |
| 6.7 | 3,96                             | 19,8                | 10,1                                 |
| 6.7 | 4,80                             | 24,0                | 12,6                                 |
| 6.7 | 5,66                             | 28,3                | 15,3                                 |
| 7   | 0,573                            | 5,73                | 3,14                                 |
| 7   | 1,43                             | 14,3                | 7,05                                 |
| 7   | 2,29                             | 22,9                | 11,8                                 |
| 7   | 3,15                             | 31,5                | 14,9                                 |
| 7   | 4,01                             | 40,1                | 19,5                                 |
| 7   | 4,87                             | 48,7                | 24,7                                 |
| 7   | 5,73                             | 57,3                | 25,8                                 |



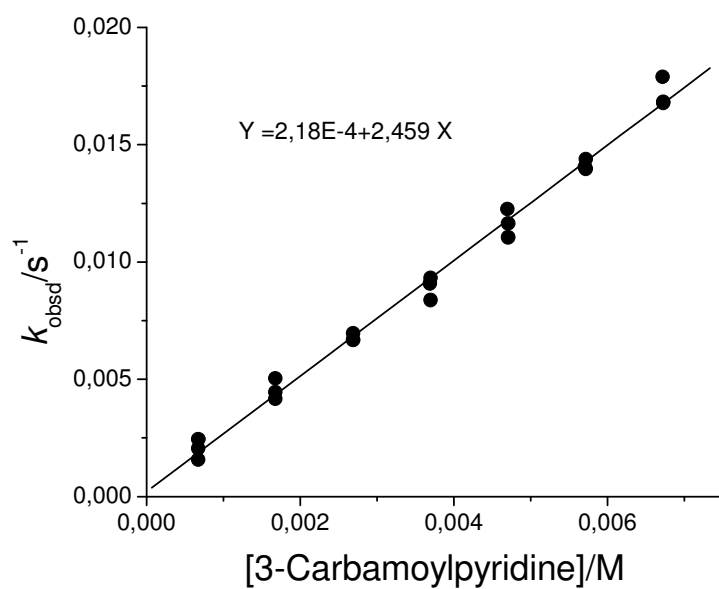
Reaction with Pyridine <sup>a</sup>

| pH   | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^4 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|------|----------------------------------|---------------------|--------------------------------------|
| 4.33 | 0,601                            | 2,00                | 0,944                                |
| 4.33 | 1,52                             | 5,06                | 2,62                                 |
| 4.33 | 2,43                             | 8,08                | 3,41                                 |
| 4.33 | 3,03                             | 10,1                | 4,67                                 |
| 4.33 | 4,24                             | 14,1                | 5,92                                 |
| 4.33 | 5,15                             | 17,2                | 8,33                                 |
| 4.33 | 6,06                             | 20,2                | 9,22                                 |
| 4.63 | 0,606                            | 3,03                | 1,52                                 |
| 4.63 | 1,59                             | 7,59                | 3,52                                 |
| 4.63 | 2,42                             | 12,1                | 5,65                                 |
| 4.63 | 3,34                             | 16,7                | 7,77                                 |
| 4.63 | 4,24                             | 21,2                | 9,32                                 |
| 4.63 | 5,16                             | 25,8                | 12,7                                 |
| 4.93 | 0,610                            | 4,07                | 2,13                                 |
| 4.93 | 1,53                             | 10,2                | 4,28                                 |
| 4.93 | 2,45                             | 16,3                | 7,99                                 |
| 4.93 | 3,36                             | 22,4                | 11,1                                 |
| 4.93 | 4,27                             | 28,5                | 14,0                                 |
| 4.93 | 5,19                             | 34,0                | 17,4                                 |
| 4.93 | 6,11                             | 40,7                | 21,2                                 |



Reaction with 3-Carbamoylpyridine <sup>a</sup>

| pH  | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^4 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 4.5 | 0,683                            | 6,73                | 0,249                                |
| 4.5 | 1,71                             | 16,8                | 0,445                                |
| 4.5 | 2,73                             | 26,9                | 0,667                                |
| 4.5 | 3,76                             | 37,0                | 0,837                                |
| 4.5 | 4,78                             | 47,1                | 1,10                                 |
| 4.5 | 5,81                             | 57,2                | 1,40                                 |
| 4.5 | 6,83                             | 67,3                | 1,68                                 |
| 5   | 0,675                            | 6,72                | 0,157                                |
| 5   | 1,69                             | 16,8                | 0,415                                |
| 5   | 2,70                             | 26,9                | 0,667                                |
| 5   | 3,71                             | 36,9                | 0,908                                |
| 5   | 4,72                             | 47                  | 1,23                                 |
| 5   | 5,74                             | 57,1                | 1,40                                 |
| 5   | 6,75                             | 67,2                | 1,79                                 |
| 5.3 | 0,674                            | 6,73                | 0,25                                 |
| 5.3 | 1,68                             | 16,8                | 0,503                                |
| 5.3 | 2,70                             | 26,9                | 0,695                                |
| 5.3 | 3,71                             | 37,0                | 0,932                                |
| 5.3 | 4,72                             | 47,1                | 1,16                                 |
| 5.3 | 5,73                             | 57,2                | 1,44                                 |
| 5.3 | 6,74                             | 67,3                | 1,68                                 |



# Reaction with 4-Cyanopyridine <sup>a</sup>

| pH  | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^4 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 4.5 | 0,549                            | 5,49                | 0,037                                |
| 4.5 | 1,37                             | 13,7                | 0,055                                |
| 4.5 | 2,20                             | 22,0                | 0,070                                |
| 4.5 | 3,02                             | 30,2                | 0,081                                |
| 4.5 | 3,85                             | 38,5                | 0,086                                |
| 4.5 | 4,67                             | 46,7                | 0,099                                |
| 4.5 | 5,49                             | 54,9                | 0,104                                |
| 5   | 0,515                            | 5,15                | 0,058                                |
| 5   | 1,29                             | 12,9                | 0,070                                |
| 5   | 2,83                             | 28,3                | 0,090                                |
| 5   | 3,60                             | 36,0                | 0,100                                |
| 5   | 4,38                             | 43,8                | 0,116                                |
| 5   | 5,15                             | 51,5                | 0,127                                |
| 7   | 0,496                            | 4,96                | 0,068                                |
| 7   | 2,73                             | 27,3                | 0,114                                |
| 7   | 4,96                             | 49,6                | 0,137                                |

<sup>a</sup> In 44 wt% ethanol-water, at 25.0 °C and an ionic strength of 0.2 M (KCl).

<sup>b</sup> Concentration of total amine (free and protonated forms). <sup>c</sup> Concentration of free amine.

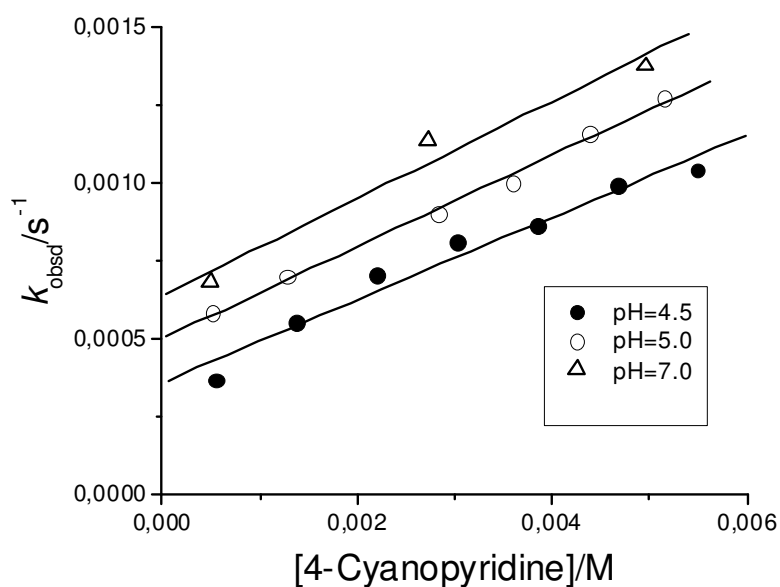
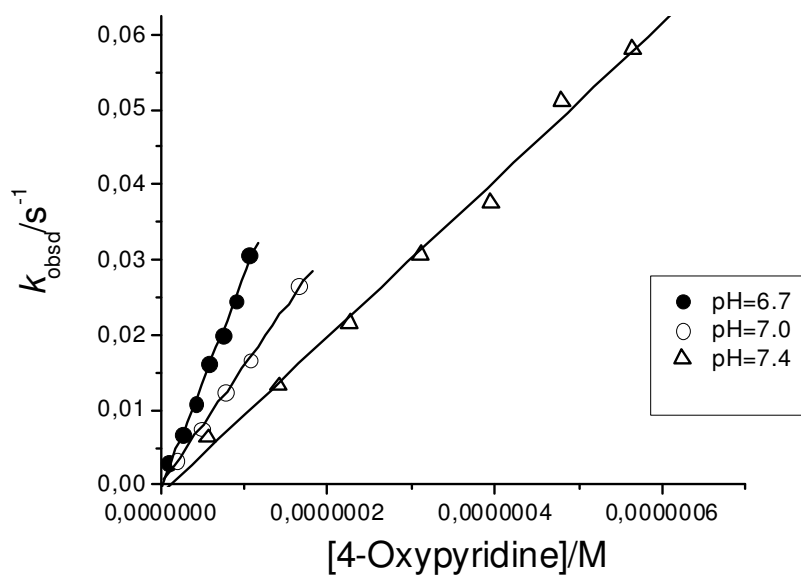


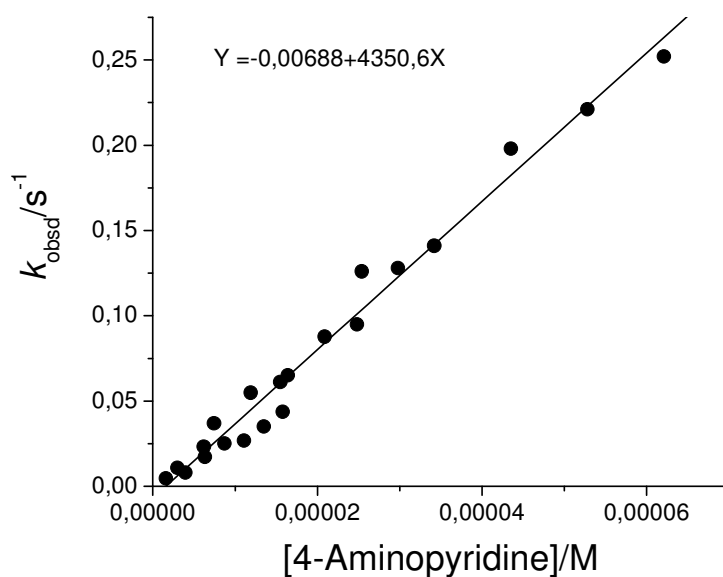
TABLE S2 . Kinetic Results for the Reactions of Carbonate 7. Reaction with 4-Oxypyridine <sup>a</sup>

| pH  | 10 <sup>3</sup> N <sub>tot</sub> /M <sup>b</sup> | 10 <sup>7</sup> N/M <sup>c</sup> | 10 <sup>2</sup> k <sub>obsd</sub> /s <sup>-1</sup> |
|-----|--------------------------------------------------|----------------------------------|----------------------------------------------------|
| 6.7 | 0,671                                            | 0,106                            | 0,299                                              |
| 6.7 | 1,68                                             | 0,266                            | 0,672                                              |
| 6.7 | 2,69                                             | 0,425                            | 1,09                                               |
| 6.7 | 3,70                                             | 0,585                            | 1,61                                               |
| 6.7 | 4,71                                             | 0,744                            | 2,00                                               |
| 6.7 | 5,72                                             | 0,904                            | 2,45                                               |
| 6.7 | 6,71                                             | 1,06                             | 3,06                                               |
| 7   | 0,617                                            | 0,195                            | 0,331                                              |
| 7   | 1,54                                             | 0,487                            | 0,751                                              |
| 7   | 2,47                                             | 0,779                            | 1,24                                               |
| 7   | 3,39                                             | 1,07                             | 1,66                                               |
| 7   | 5,25                                             | 1,66                             | 2,65                                               |
| 7.4 | 0,711                                            | 0,565                            | 0,627                                              |
| 7.4 | 1,78                                             | 1,41                             | 1,32                                               |
| 7.4 | 2,84                                             | 2,26                             | 2,15                                               |
| 7.4 | 3,91                                             | 3,11                             | 3,07                                               |
| 7.4 | 4,98                                             | 3,95                             | 3,77                                               |
| 7.4 | 6,04                                             | 4,80                             | 5,12                                               |



Reaction with 4-Aminopyridine<sup>a</sup>

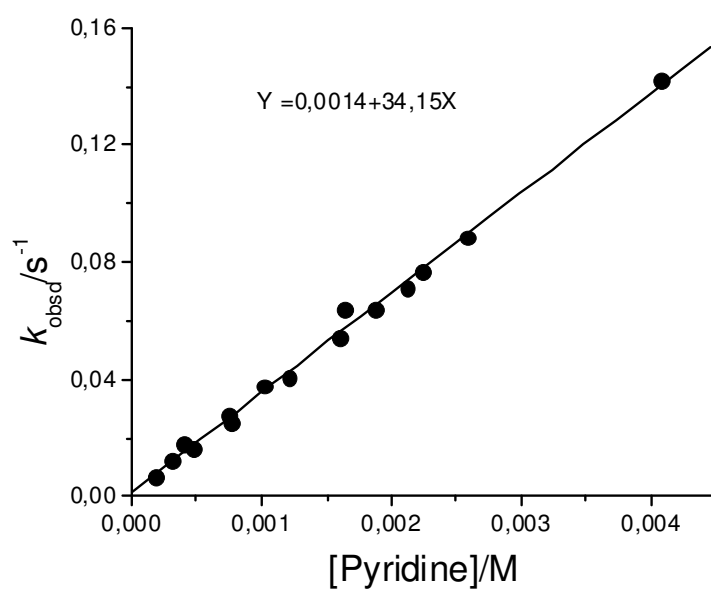
| pH  | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^6 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 6.4 | 0,604                            | 1.58                | 0,465                                |
| 6.4 | 1,51                             | 3.96                | 0,801                                |
| 6.4 | 2,42                             | 6.33                | 1,72                                 |
| 6.4 | 3,32                             | 8.71                | 2,51                                 |
| 6.4 | 4,23                             | 11.1                | 2,67                                 |
| 6.4 | 5,14                             | 13.5                | 3,50                                 |
| 6.4 | 6,04                             | 15.8                | 4,37                                 |
| 6.7 | 0,57                             | 3.00                | 1,07                                 |
| 6.7 | 1,43                             | 7.50                | 3,69                                 |
| 6.7 | 2,29                             | 11.9                | 5,48                                 |
| 6.7 | 3,14                             | 16.4                | 6,51                                 |
| 6.7 | 4,00                             | 20.9                | 8,77                                 |
| 6.7 | 4,86                             | 25.4                | 12,6                                 |
| 6.7 | 5,72                             | 29.8                | 12,8                                 |
| 7   | 0,599                            | 6.20                | 2,32                                 |
| 7   | 1,50                             | 15.5                | 6,10                                 |
| 7   | 2,40                             | 24.8                | 9,49                                 |
| 7   | 3,30                             | 34.2                | 14,1                                 |
| 7   | 4,20                             | 43.5                | 19,8                                 |
| 7   | 5,10                             | 52.8                | 22,1                                 |
| 7   | 5,99                             | 62.1                | 25,2                                 |





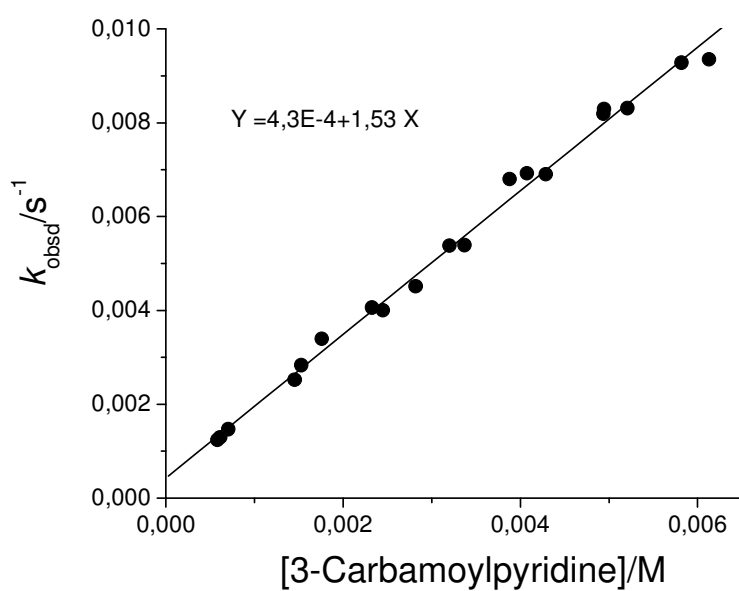
Reaction with Pyridine <sup>a</sup>

| pH   | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^4 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|------|----------------------------------|---------------------|--------------------------------------|
| 4.33 | 0,565                            | 1,88                | 0,69                                 |
| 4.33 | 1,41                             | 4,70                | 1,66                                 |
| 4.33 | 2,26                             | 7,52                | 2,79                                 |
| 4.33 | 4,80                             | 16,0                | 5,41                                 |
| 4.33 | 5,65                             | 18,8                | 6,41                                 |
| 4.63 | 0,610                            | 3,03                | 1,22                                 |
| 4.63 | 1,52                             | 7,59                | 2,51                                 |
| 4.63 | 2,43                             | 12,1                | 4,08                                 |
| 4.63 | 4,25                             | 21,2                | 7,11                                 |
| 4.63 | 5,16                             | 25,8                | 8,85                                 |
| 4.93 | 0,610                            | 4,07                | 1,81                                 |
| 4.93 | 1,53                             | 10,2                | 3,77                                 |
| 4.93 | 2,45                             | 16,3                | 6,38                                 |
| 4.93 | 3,36                             | 22,4                | 7,68                                 |
| 4.93 | 6,11                             | 40,7                | 14,2                                 |



Reaction with 3-Carbamoylpyridine <sup>a</sup>

| pH  | 10 <sup>3</sup> N <sub>tot</sub> /M <sup>b</sup> | 10 <sup>4</sup> N/M <sup>c</sup> | 10 <sup>3</sup> k <sub>obsd</sub> /s <sup>-1</sup> |
|-----|--------------------------------------------------|----------------------------------|----------------------------------------------------|
| 4.5 | 0,72                                             | 7,05                             | 1.47                                               |
| 4.5 | 1,79                                             | 17,6                             | 3.40                                               |
| 4.5 | 2,86                                             | 28,2                             | 4.51                                               |
| 4.5 | 3,94                                             | 38,8                             | 6.80                                               |
| 4.5 | 5,01                                             | 49,4                             | 8.19                                               |
| 5   | 0,585                                            | 5,82                             | 1.24                                               |
| 5   | 1,46                                             | 14,5                             | 2.52                                               |
| 5   | 2,34                                             | 23,3                             | 4.06                                               |
| 5   | 3,22                                             | 32,0                             | 5.38                                               |
| 5   | 4,09                                             | 40,7                             | 6.92                                               |
| 5   | 4,97                                             | 49,5                             | 8.29                                               |
| 5   | 5,85                                             | 58,2                             | 9.27                                               |
| 5.3 | 0,614                                            | 6,13                             | 1.29                                               |
| 5.3 | 1,54                                             | 15,3                             | 2.83                                               |
| 5.3 | 2,46                                             | 24,5                             | 4.00                                               |
| 5.3 | 3,38                                             | 33,7                             | 5.39                                               |
| 5.3 | 4,30                                             | 42,9                             | 6.90                                               |
| 5.3 | 5,22                                             | 52,1                             | 8.31                                               |
| 5.3 | 6,14                                             | 61,3                             | 9.35                                               |



Reaction with 4-Cyanopyridine <sup>a</sup>

| pH  | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^4 N/\text{M}^c$ | $10^4 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 4.5 | 0,815                            | 8,15                | 3.7                                  |
| 4.5 | 2,04                             | 20,4                | 4.9                                  |
| 4.5 | 3,26                             | 32,6                | 6.2                                  |
| 4.5 | 4,48                             | 44,8                | 6.9                                  |
| 4.5 | 5,70                             | 57,0                | 8.8                                  |
| 4.5 | 6,92                             | 69,2                | 10.4                                 |
| 4.5 | 8,15                             | 81,5                | 11.6                                 |
| 5   | 1,63                             | 16,3                | 6.3                                  |
| 5   | 2,60                             | 26,1                | 7.5                                  |
| 5   | 3,58                             | 35,8                | 8.6                                  |
| 5   | 5,54                             | 55,4                | 11.8                                 |
| 5   | 6,51                             | 65,1                | 12.5                                 |
| 5.3 | 0,742                            | 7,42                | 4.92                                 |
| 5.3 | 1,85                             | 18,5                | 6.76                                 |
| 5.3 | 2,97                             | 29,7                | 8.35                                 |
| 5.3 | 5,19                             | 51,9                | 10.9                                 |

<sup>a</sup> In 44 wt% ethanol-water, at 25.0 °C and an ionic strength of 0.2 M (KCl).

<sup>b</sup> Concentration of total amine (free and protonated forms). <sup>c</sup> Concentration of free amine.

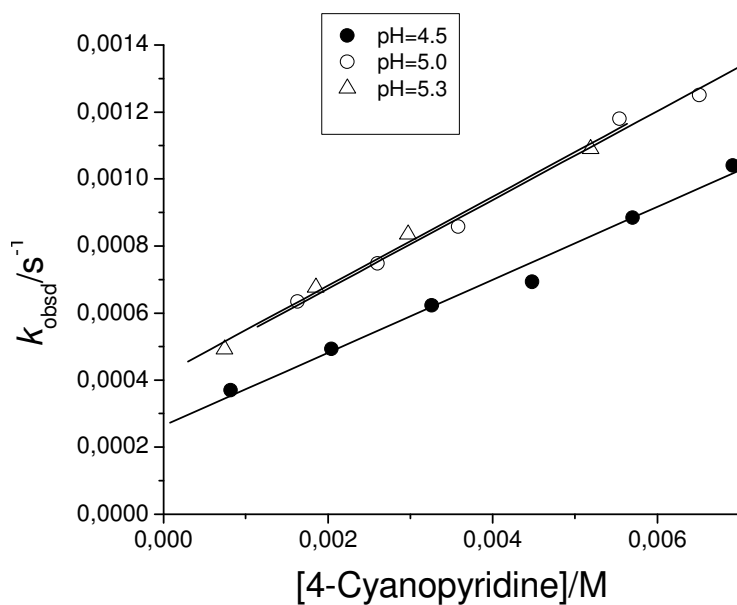
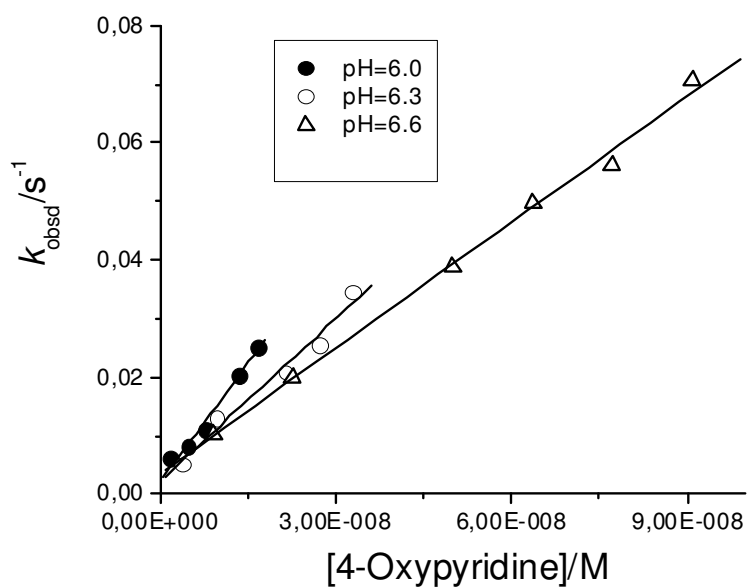


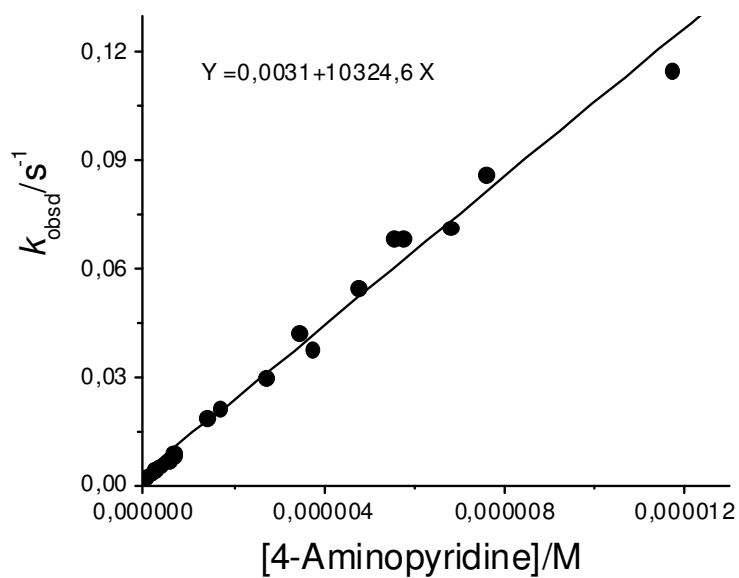
TABLE S3. Kinetic Results for the Reactions of Carbonate **8**. Reaction with 4-Oxypyridine <sup>a</sup>

| pH  | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^7 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 6   | 0,619                            | 0,195               | 0,623                                |
| 6   | 1,55                             | 0,487               | 0,824                                |
| 6   | 2,47                             | 0,779               | 1,09                                 |
| 6   | 4,33                             | 1,36                | 2,02                                 |
| 6   | 5,26                             | 1,66                | 2,52                                 |
| 6.3 | 0,619                            | 0,389               | 0,52                                 |
| 6.3 | 1,55                             | 0,972               | 1,30                                 |
| 6.3 | 3,40                             | 2,14                | 2,09                                 |
| 6.3 | 4,33                             | 2,72                | 2,54                                 |
| 6.3 | 5,26                             | 3,31                | 3,46                                 |
| 6.6 | 0,75                             | 0,908               | 1,04                                 |
| 6.6 | 1,82                             | 2,27                | 2,00                                 |
| 6.6 | 4,00                             | 5,00                | 3,88                                 |
| 6.6 | 5,09                             | 6,357               | 4,97                                 |
| 6.6 | 6,18                             | 7,72                | 5,62                                 |
| 6.6 | 7,27                             | 9,08                | 7,06                                 |



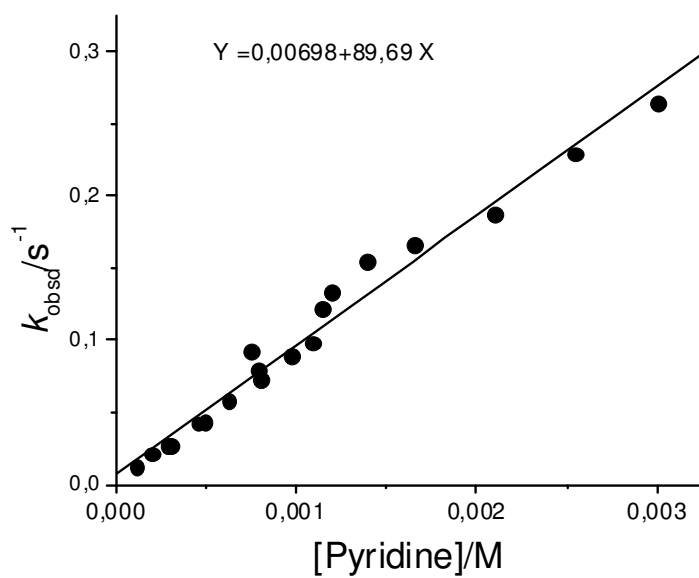
Reaction with 4-Aminopyridine <sup>a</sup>

| pH  | $10^4 N_{\text{tot}}/\text{M}^b$ | $10^4 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 5   | 0,704                            | 0,677               | 0,215                                |
| 5   | 1,76                             | 1,67                | 0,333                                |
| 5   | 2,82                             | 2,67                | 0,428                                |
| 5   | 3,88                             | 3,67                | 0,530                                |
| 5   | 5,99                             | 5,67                | 0,698                                |
| 5   | 7,04                             | 6,67                | 0,839                                |
| 6   | 0,072                            | 6,78                | 0,914                                |
| 6   | 0,179                            | 16,9                | 2,15                                 |
| 6   | 0,286                            | 27,1                | 2,98                                 |
| 6   | 0,393                            | 37,3                | 3,76                                 |
| 6   | 0,501                            | 47,5                | 5,46                                 |
| 6   | 0,608                            | 57,6                | 6,83                                 |
| 6   | 0,715                            | 67,8                | 7,13                                 |
| 6.3 | 0,80                             | 13,8                | 1,87                                 |
| 6.3 | 2,00                             | 34,6                | 4,23                                 |
| 6.3 | 3,20                             | 55,3                | 6,85                                 |
| 6.3 | 4,40                             | 76,0                | 8,58                                 |
| 6.3 | 6,77                             | 117                 | 11,5                                 |



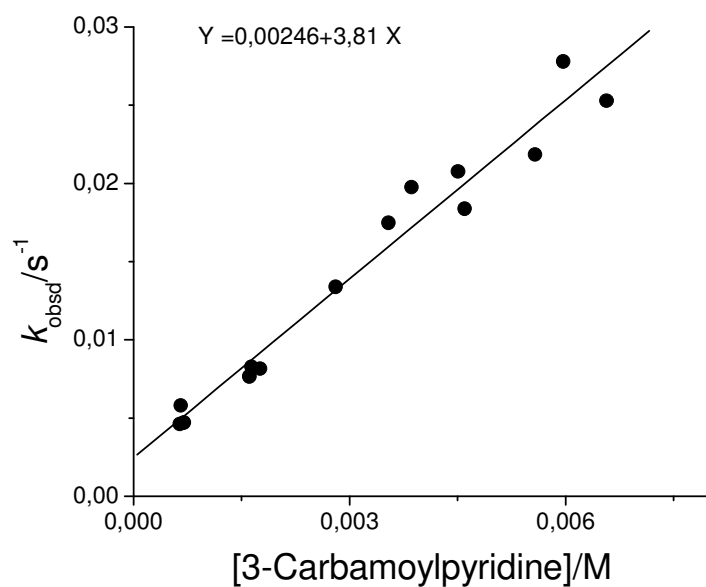
Reaction with Pyridine <sup>a</sup>

| pH   | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^4 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|------|----------------------------------|---------------------|--------------------------------------|
| 4    | 0,600                            | 1,14                | 1,16                                 |
| 4    | 1,50                             | 2,85                | 2,65                                 |
| 4    | 2,40                             | 4,56                | 4,26                                 |
| 4    | 3,30                             | 6,27                | 5,85                                 |
| 4    | 4,20                             | 7,98                | 7,24                                 |
| 4    | 5,10                             | 9,69                | 8,87                                 |
| 4.33 | 0,594                            | 1,98                | 2,13                                 |
| 4.33 | 1,48                             | 4,95                | 4,37                                 |
| 4.33 | 2,38                             | 7,92                | 7,91                                 |
| 4.33 | 3,27                             | 10,9                | 9,82                                 |
| 4.33 | 4,16                             | 13,9                | 15,5                                 |
| 4.63 | 0,600                            | 3,00                | 2,67                                 |
| 4.63 | 1,50                             | 7,50                | 9,25                                 |
| 4.63 | 2,40                             | 12,0                | 13,3                                 |
| 4.63 | 3,30                             | 16,5                | 16,6                                 |
| 4.63 | 4,20                             | 21,0                | 18,7                                 |
| 4.63 | 5,10                             | 25,5                | 22,9                                 |
| 4.63 | 6,00                             | 30,0                | 26,4                                 |



Reaction with 3-Carbamoylpyridine <sup>a</sup>

| pH  | $10^3 N_{\text{tot}}/\text{M}^b$ | $10^4 N/\text{M}^c$ | $10^2 k_{\text{obsd}}/\text{s}^{-1}$ |
|-----|----------------------------------|---------------------|--------------------------------------|
| 4.7 | 0,71                             | 7,02                | 0,470                                |
| 4.7 | 1,77                             | 17,55               | 0,815                                |
| 4.7 | 2,83                             | 28,08               | 1,338                                |
| 4.7 | 3,90                             | 38,61               | 1,975                                |
| 4.7 | 6,02                             | 59,67               | 2,779                                |
| 5   | 0,66                             | 6,57                | 0,58                                 |
| 5   | 1,65                             | 16,43               | 0,83                                 |
| 5   | 4,62                             | 45,99               | 1,84                                 |
| 5   | 5,61                             | 55,85               | 2,19                                 |
| 5   | 6,60                             | 65,70               | 2,53                                 |
| 5.3 | 0,65                             | 6,44                | 0,46                                 |
| 5.3 | 1,61                             | 16,10               | 0,77                                 |
| 5.3 | 3,55                             | 35,40               | 1,75                                 |
| 5.3 | 4,52                             | 45,10               | 2,08                                 |

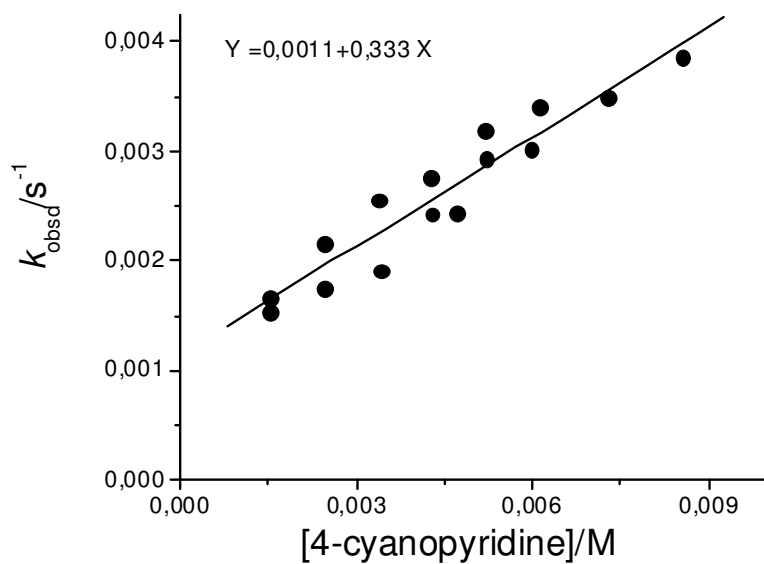


Reaction with 4-Cyanopyridine <sup>a</sup>

| pH  | 10 <sup>3</sup> N <sub>tot</sub> /M <sup>b</sup> | 10 <sup>4</sup> N/M <sup>c</sup> | 10 <sup>2</sup> k <sub>obsd</sub> /s <sup>-1</sup> |
|-----|--------------------------------------------------|----------------------------------|----------------------------------------------------|
| 6   | 1,53                                             | 15,3                             | 0,152                                              |
| 6   | 2,45                                             | 24,5                             | 0,175                                              |
| 6   | 3,37                                             | 33,7                             | 0,255                                              |
| 6   | 4,29                                             | 42,9                             | 0,243                                              |
| 6   | 5,21                                             | 52,1                             | 0,292                                              |
| 6   | 6,13                                             | 61,3                             | 0,341                                              |
| 6.5 | 1,52                                             | 15,2                             | 0,166                                              |
| 6.5 | 2,44                                             | 24,4                             | 0,216                                              |
| 6.5 | 4,26                                             | 42,6                             | 0,276                                              |
| 6.5 | 5,18                                             | 51,8                             | 0,319                                              |
| 7   | 3,42                                             | 34,2                             | 0,191                                              |
| 7   | 4,70                                             | 47,0                             | 0,244                                              |
| 7   | 5,98                                             | 59,8                             | 0,302                                              |
| 7   | 7,27                                             | 72,7                             | 0,349                                              |
| 7   | 8,55                                             | 85,5                             | 0,385                                              |

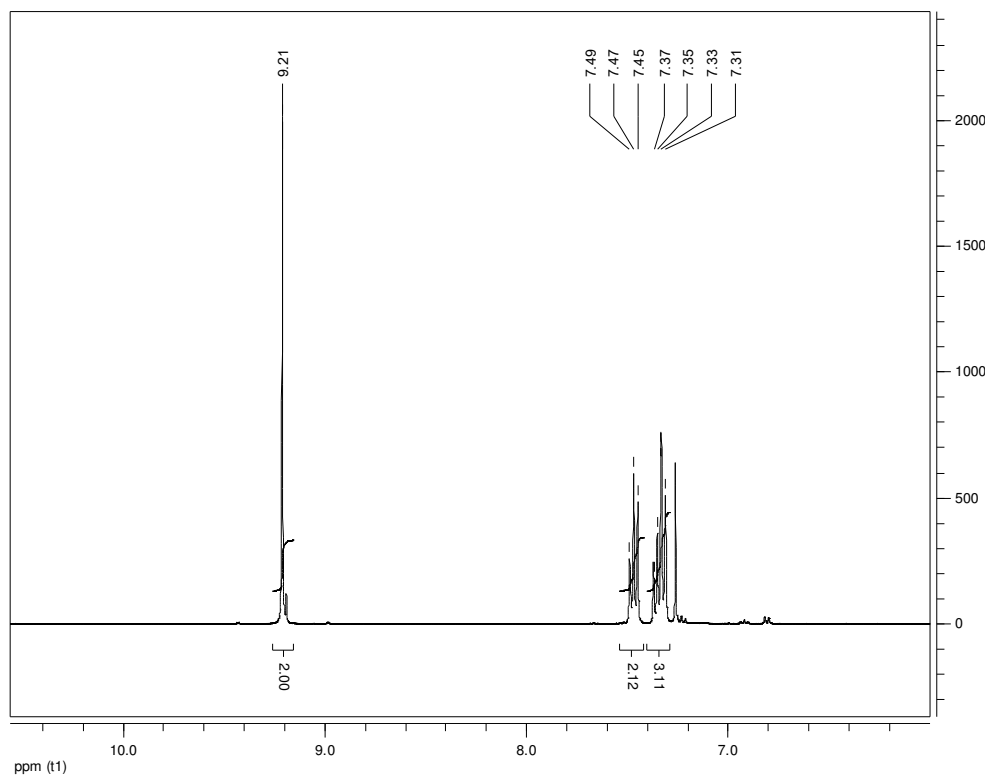
<sup>a</sup> In 44 wt% ethanol-water, at 25.0 °C and an ionic strength of 0.2 M (KCl).

<sup>b</sup> Concentration of total amine (free and protonated forms). <sup>c</sup> Concentration of free amine.

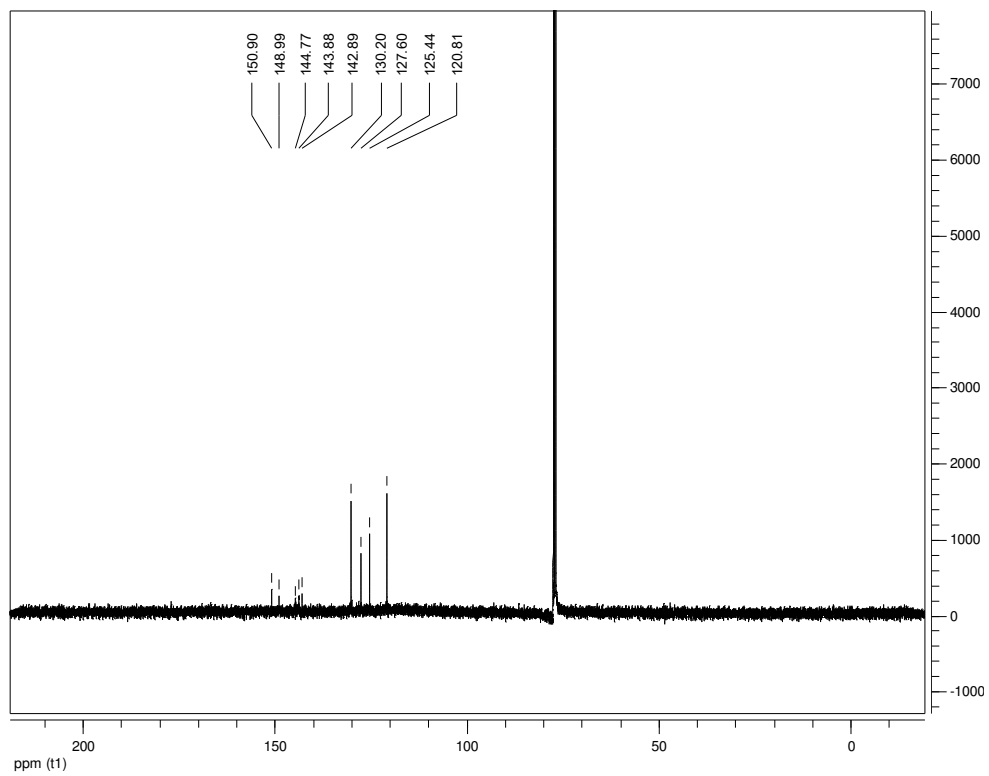




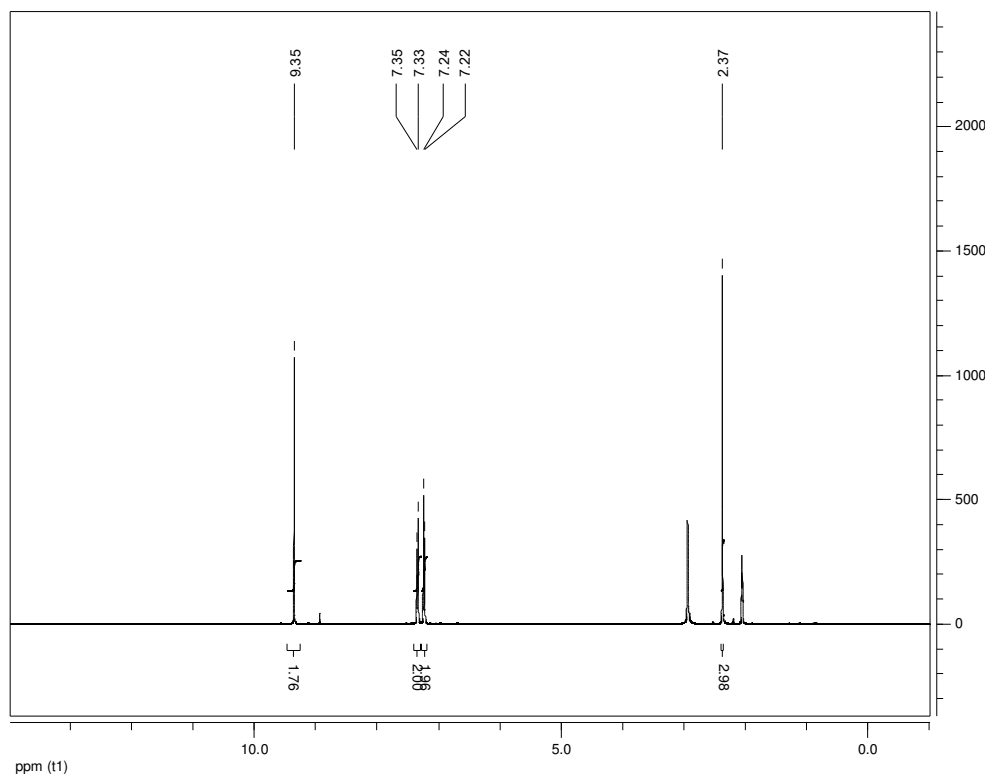
<sup>1</sup>H-NMR of Carbonate **6**



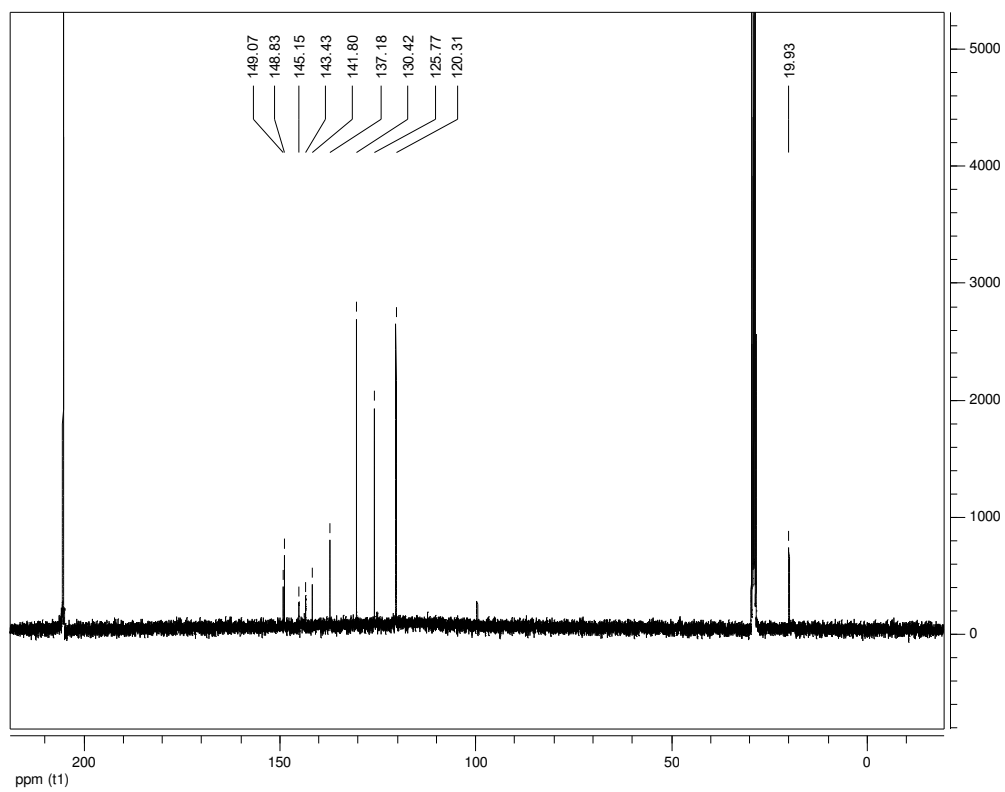
<sup>13</sup>C-NMR of Carbonate **6**



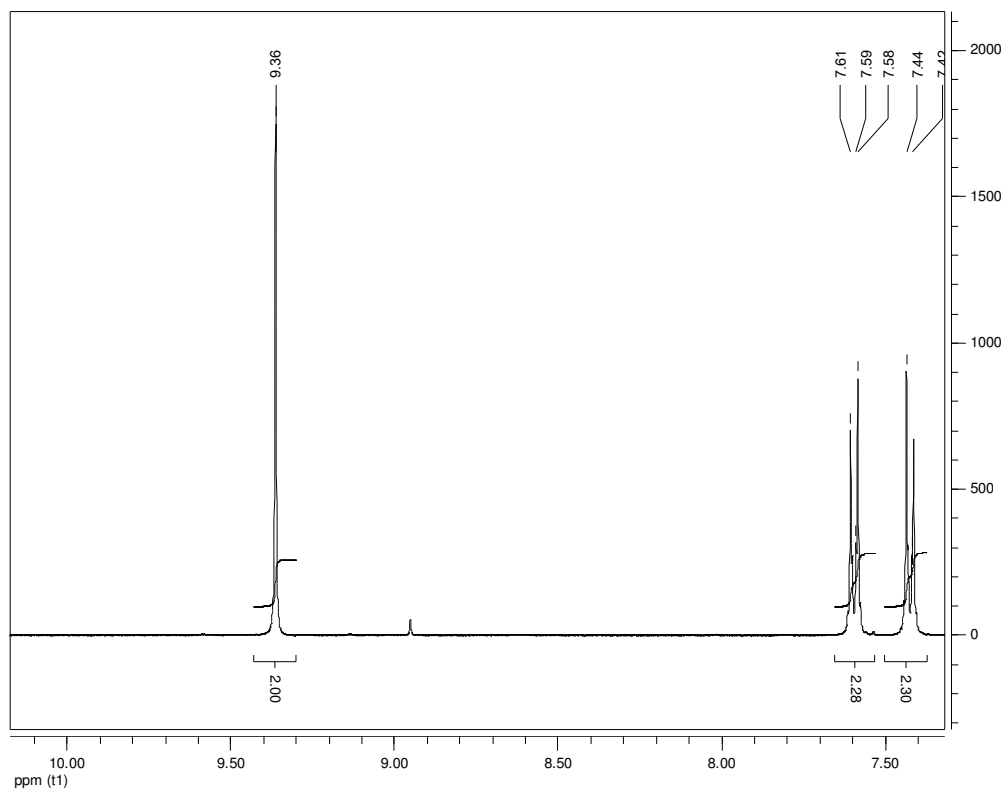
### $^1\text{H}$ -NMR of Carbonate **7**



### $^{13}\text{C}$ -NMR of Carbonate **7**



### $^1\text{H}$ -NMR of Carbonate **8**



### $^{13}\text{C}$ -NMR of Carbonate **8**

