

## ภาคผนวก ก ปริมาณก๊าซ

การสร้างถังปฏิกิริยาที่มีสภาวะเสถียร  
(ST 1-1, ST 1-2, ST 1-3 และ ST 1-4)

ตาราง ก ปริมาณก๊าซ

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซในแต่ละวัน (ลิตร) |        |        |        | ปริมาณก๊าซสะสม (ลิตร) |        |        |        |
|----------------------------|-----------------------------|--------|--------|--------|-----------------------|--------|--------|--------|
|                            | ST 1-1                      | ST 1-2 | ST 1-3 | ST 1-4 | ST 1-1                | ST 1-2 | ST 1-3 | ST 1-4 |
| 1                          | -                           | -      | 11     | 12.6   | -                     | -      | 11.0   | 12.6   |
| 2                          | -                           | -      | 11     | 8.6    | -                     | -      | 22.0   | 21.2   |
| 3                          | -                           | -      | 5.3    | 4.3    | -                     | -      | 27.3   | 25.5   |
| 4                          | 3.4                         | 3.5    | 10.5   | 5      | 3.4                   | 3.50   | 37.8   | 30.5   |
| 5                          | 3                           | 4.2    | 4.8    | 5      | 6.4                   | 7.70   | 42.6   | 35.5   |
| 6                          | 2.5                         | 4      | 3      | 7      | 8.9                   | 11.7   | 45.6   | 42.5   |
| 7                          | 1.5                         | 3.7    | 2      | 3.4    | 10.4                  | 15.4   | 47.6   | 45.9   |
| 8                          | 2                           | 4      | 1      | 3.2    | 12.4                  | 19.4   | 48.6   | 49.1   |
| 9                          | 2.5                         | 2      | 2      | 2      | 14.9                  | 21.4   | 50.6   | 51.1   |
| 10                         | 1.8                         | 2.1    | 1.7    | 2      | 16.7                  | 23.5   | 52.3   | 53.1   |
| 11                         | 1.5                         | 2.5    | 2      | 1.5    | 18.2                  | 26.0   | 54.3   | 54.6   |
| 12                         | 1                           | 2.1    | 1.5    | 2      | 19.2                  | 28.1   | 55.8   | 56.6   |
| 13                         | 1.5                         | 0.5    | 2.2    | 2.8    | 20.7                  | 28.6   | 58.0   | 59.4   |
| 14                         | 0.5                         | 1      | 1      | 1.5    | 21.2                  | 29.6   | 59.0   | 60.9   |
| 15                         | 0.5                         | 1.1    | 1.5    | 2.1    | 21.7                  | 30.7   | 60.5   | 63     |
| 16                         | 0.5                         | 2.1    | 0.4    | 2      | 22.2                  | 32.8   | 60.9   | 65     |
| 17                         | 0.5                         | 2      | 0.6    | 2      | 22.7                  | 34.8   | 61.5   | 67     |
| 18                         | 0.6                         | 2.2    | 1.5    | 2.5    | 23.3                  | 37.0   | 63.0   | 69.5   |
| 19                         | 1                           | 2.8    | 3      | 2.5    | 24.3                  | 39.8   | 66.0   | 72     |
| 20                         | 0.5                         | 2      | 2      | 4      | 24.8                  | 41.8   | 68.0   | 76     |
| 21                         | 0.7                         | 2      | 2      | 6.5    | 25.5                  | 43.8   | 70.0   | 82.5   |
| 22                         | 1                           | 3      | 4      | 5      | 26.5                  | 46.8   | 74.0   | 87.5   |
| 23                         | 0.5                         | 5      | 6      | 6.5    | 27.0                  | 51.8   | 80.0   | 94     |
| 24                         | 0.4                         | 5.5    | 4.5    | 7      | 27.4                  | 57.3   | 84.5   | 101    |
| 25                         | 0.6                         | 5      | 5      | 8.8    | 28.0                  | 62.3   | 89.5   | 109.8  |
| 26                         | 1                           | 12     | 12     | 6.9    | 29.0                  | 74.3   | 102    | 116.7  |
| 27                         | 1.2                         | 8.5    | 10.7   | 7      | 30.2                  | 82.8   | 112    | 123.7  |
| 28                         | 1.5                         | 9.8    | 11.5   | 5.9    | 31.7                  | 92.6   | 124    | 129.6  |
| 29                         | 1.5                         | 8.6    | 11     | 6.4    | 33.2                  | 101    | 135    | 136    |
| 30                         | 1                           | 6.5    | 10.5   | 7.2    | 34.2                  | 108    | 145    | 143.2  |
| 31                         | 2                           | 8      | 9.6    | 8.1    | 36.2                  | 116    | 155    | 151.3  |
| 32                         | 3                           | 7.5    | 10.8   | 7.5    | 39.2                  | 123    | 166    | 158.8  |
| 33                         | 2                           | 8      | 10     | 6.3    | 41.2                  | 131    | 176    | 165.1  |
| 34                         | 1                           | 5.4    | 6      | 4.8    | 42.2                  | 137    | 182    | 169.9  |
| 35                         | 1                           | 6      | 4      | 5.5    | 43.2                  | 143    | 186    | 175.4  |
| 36                         | 2                           | 8      | 6      | 6      | 45.2                  | 151    | 192    | 181.4  |
| 37                         | 2                           | 9      | 6      | 4.5    | 47.2                  | 160    | 198    | 185.9  |
| 38                         | 2                           | 11.2   | 6      | 7      | 49.2                  | 171    | 204    | 192.9  |

ตาราง ก.1 ปริมาณก๊าซ (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซในแต่ละวัน (ลิตร) |        |        |        | ปริมาณก๊าซสะสม (ลิตร) |        |        |        |
|----------------------------|-----------------------------|--------|--------|--------|-----------------------|--------|--------|--------|
|                            | ST 1-1                      | ST 1-2 | ST 1-3 | ST 1-4 | ST 1-1                | ST 1-2 | ST 1-3 | ST 1-4 |
| 39                         | 1.5                         | 10     | 7      | 6      | 50.7                  | 181    | 211    | 198.9  |
| 40                         | 2.5                         | 8.5    | 5      | 3      | 53.2                  | 189    | 217    | 201.9  |
| 41                         | 2                           | 9      | 6      | 2.5    | 55.2                  | 198    | 223    | 204.4  |
| 42                         | 1.5                         | 8      | 4      | 4      | 56.7                  | 206    | 227    | 208.4  |
| 43                         | 2.5                         | 10.5   | 7      | 5      | 59.2                  | 217    | 234    | 213.4  |
| 44                         | 4                           | 8      | 5.2    | 3.4    | 63.2                  | 225    | 239    | 216.8  |
| 45                         | 2.5                         | 5      | 5.2    | 2      | 65.7                  | 230    | 244    | 218.8  |
| 46                         | 2                           | 8      | 3.5    | 4      | 67.7                  | 238    | 248    | 222.8  |
| 47                         | 2.5                         | 5      | 3.7    | 3.5    | 70.2                  | 243    | 251    | 226.3  |
| 48                         | 4                           | 6      | 5      | 4.5    | 74.2                  | 249    | 256    | 230.8  |
| 49                         | 3                           | 4      | 5      | 4      | 77.2                  | 253    | 261    | 234.8  |
| 50                         | 3                           | 4.5    | 5      | 3      | 80.2                  | 257    | 266    | 237.8  |
| 51                         | 4                           | 4      | 4      | 2.8    | 84.2                  | 261    | 270    | 240.6  |
| 52                         | 5                           | 4      | 5      | 3.5    | 89.2                  | 265    | 275    | 244.1  |
| 53                         | 5                           | 4.5    | 5      | 4      | 94.2                  | 270    | 280    | 248.1  |
| 54                         | 7                           | 3.8    | 5      | 4      | 101                   | 274    | 285    | 252.1  |
| 55                         | 6.5                         | 4.2    | 5.5    | 3.5    | 108                   | 278    | 291    | 255.6  |
| 56                         | 7                           | 4      | 6      | 4      | 115                   | 282    | 297    | 259.6  |
| 57                         | 6                           | 4.2    | 5.8    | 3.5    | 121                   | 286    | 303    | 263.1  |
| 58                         | 7                           | 4      | 5.5    | 4.5    | 128                   | 290    | 308    | 267.6  |
| 59                         | 6                           | 3      | 5      | 4      | 134                   | 293    | 313    | 271.6  |
| 60                         | 7                           | 3      | 4      | 3      | 141                   | 296    | 317    | 274.6  |
| 61                         | 8                           | 5      | 6      | 5      | 149                   | 301    | 323    | 279.6  |
| 62                         | 7.5                         | 4      | 4.4    | 3.4    | 156                   | 305    | 327    | 283    |
| 63                         | 5                           | 4      | 4      | 3.5    | 161                   | 309    | 331    | 286.5  |
| 64                         | 5                           | 3      | 3      | 4      | 166                   | 312    | 334    | 290.5  |
| 65                         | 4.5                         | 4      | 4      | 3.5    | 171                   | 316    | 338    | 294    |
| 66                         | 5.5                         | 3      | 3.5    | 2.9    | 176                   | 319    | 342    | 296.9  |
| 67                         | 6                           | 3      | 3.2    | 3      | 182                   | 322    | 345    | 299.9  |
| 68                         | 5                           | 3.2    | 3.2    | 4      | 187                   | 325    | 348    | 303.9  |
| 69                         | 5.5                         | 3      | 3      | 3      | 193                   | 328    | 351    | 306.9  |
| 70                         | 5                           | 3.5    | 4      | 2.5    | 198                   | 332    | 355    | 309.4  |
| 71                         | 6.5                         | 3.5    | 4      | 2.8    | 204                   | 335    | 359    | 312.2  |
| 72                         | 5                           | 3      | 2      | 3      | 209                   | 338    | 361    | 315.2  |
| 73                         | 6                           | 5      | 5      | 3.7    | 215                   | 343    | 366    | 318.9  |
| 74                         | 4.8                         | 3      | 3      | 3      | 220                   | 346    | 369    | 321.9  |
| 75                         | 5                           | 4      | 3.2    | 3.5    | 225                   | 350    | 373    | 325.4  |
| 76                         | 5.5                         | 3      | 3.5    | 2.5    | 231                   | 353    | 376    | 327.9  |

ตาราง ก ปริมาณก๊าซ (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซในแต่ละวัน (ลิตร) |        |        |        | ปริมาณก๊าซสะสม (ลิตร) |        |        |        |
|----------------------------|-----------------------------|--------|--------|--------|-----------------------|--------|--------|--------|
|                            | ST 1-1                      | ST 1-2 | ST 1-3 | ST 1-4 | ST 1-1                | ST 1-2 | ST 1-3 | ST 1-4 |
| 77                         | 6                           | 4      | 3      | 3      | 237                   | 357    | 379    | 330.9  |
| 78                         | 5                           | 3.7    | 3      | 3      | 242                   | 361    | 382    | 333.9  |
| 79                         | 5                           | 2      | 2      | 3      | 247                   | 363    | 384    | 336.9  |
| 80                         | 5                           | 1.5    | 2.5    | 2.5    | 252                   | 364    | 387    | 339.4  |
| 81                         | 5                           | 1      | 2      | 1      | 257                   | 365    | 389    | 340.4  |
| 82                         | 3                           | 1.5    | 2      | 2.3    | 260                   | 367    | 391    | 342.7  |
| 83                         | 5                           | 2      | 2      | 2      | 265                   | 369    | 393    | 344.7  |
| 84                         | 5                           | 2      | 3      | 2.5    | 270                   | 371    | 396    | 347.2  |
| 85                         | 6                           | 1.5    | 3      | 2      | 276                   | 372    | 399    | 349.2  |
| 86                         | 6                           | 2      | 3      | 2      | 282                   | 374    | 402    | 351.2  |
| 87                         | 4                           | 2      | 3.5    | 1.5    | 286                   | 376    | 405    | 352.7  |
| 88                         | 2                           | 1.5    | 5      | 1.5    | 288                   | 378    | 410    | 354.2  |
| 89                         | 4                           | 1.5    | 2      | 1      | 292                   | 379    | 412    | 355.2  |
| 90                         | 4                           | 1      | 2      | 1.2    | 296                   | 380    | 414    | 356.4  |
| 91                         | 6                           | 1      | 2      | 1.5    | 302                   | 381    | 416    | 357.9  |
| 92                         | 7                           | 2      | 2      | 1      | 309                   | 383    | 418    | 358.9  |
| 93                         | 3                           | 1      | 1      | 1.5    | 312                   | 384    | 419    | 360.4  |
| 94                         | 3                           | 1      | 1      | 1      | 315                   | 385    | 420    | 361.4  |
| 95                         | 4                           | 1      | 2.2    | 1      | 319                   | 386    | 422    | 362.4  |
| 96                         | 4                           | 1      | 2.3    | 1      | 323                   | 387    | 425    | 363.4  |
| 97                         | 3.5                         | 1.5    | 2      | 1.6    | 326                   | 389    | 427    | 365    |
| 98                         | 4                           | 1.4    | 1      | 2      | 330                   | 390    | 428    | 367    |
| 99                         | 5                           | 1      | 1      | 1.5    | 335                   | 391    | 429    | 368.5  |
| 100                        | 4                           | 1      | 1      | 1.4    | 339                   | 392    | 430    | 369.9  |
| 101                        | 4                           | 1      | 1      | 1.8    | 343                   | 393    | 431    | 371.7  |
| 102                        | 7                           | 1.5    | 1.5    | 2      | 350                   | 395    | 432    | 373.7  |
| 103                        | 2.5                         | 0.8    | 1      | 1.5    | 353                   | 396    | 433    | 375.2  |
| 104                        | 5                           | 1.5    | 1      | 1.2    | 358                   | 397    | 434    | 376.4  |
| 105                        | 4                           | 1      | 0.8    | 1.3    | 362                   | 398    | 435    | 377.7  |
| 106                        | 4                           | 1      | 0.6    | 1.4    | 366                   | 399    | 435    | 379.1  |
| 107                        | 3                           | 0.3    | 0.5    | 1      | 369                   | 399    | 436    | 380.1  |
| 108                        | 3                           | 0.3    | 0.4    | 0.8    | 372                   | 400    | 436    | 380.9  |
| 109                        | 3                           | 0.3    | 0.3    | 0.5    | 375                   | 400    | 437    | 381.4  |
| 110                        | 3                           | 0.4    | 0.6    | 0.5    | 378                   | 400    | 437    | 381.9  |
| 111                        | 4                           | 0.3    | 0.5    | 0.7    | 382                   | 401    | 438    | 383    |
| 112                        | 4                           | 0.3    | 0.5    | 0.4    | 386                   | 401    | 438    | 383    |
| 113                        | 4                           | 0.5    | 0.4    | 0.4    | 390                   | 402    | 439    | 383    |
| 114                        | 5                           | 0.4    | 0.6    | 0.5    | 395                   | 402    | 439    | 384    |

## ตาราง ก ปริมาณก๊าซ (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซในแต่ละวัน (ลิตร) |        |        |        | ปริมาณก๊าซสะสม (ลิตร) |        |        |        |
|----------------------------|-----------------------------|--------|--------|--------|-----------------------|--------|--------|--------|
|                            | ST 1-1                      | ST 1-2 | ST 1-3 | ST 1-4 | ST 1-1                | ST 1-2 | ST 1-3 | ST 1-4 |
| 115                        | 4                           | 0.4    | 0.7    | 0.5    | 399                   | 402    | 440    | 384    |
| 116                        | 4.5                         | 0.5    | 0.8    | 0.4    | 403                   | 403    | 441    | 385    |
| 117                        | 3.8                         | 0.5    | 0.5    | 0.3    | 407                   | 403    | 441    | 385    |
| 118                        | 4                           | 0.4    | 0.6    | 0.4    | 411                   | 404    | 442    | 386    |
| 119                        | 4.5                         | 0.5    | 0.5    | 0.3    | 415                   | 404    | 442    | 386    |
| 120                        | 3                           | 0.3    | 0.3    | 0.5    | 418                   | 405    | 443    | 386    |
| 121                        | 4.2                         | 0.4    | 0.8    | 0.4    | 423                   | 405    | 443    | 387    |
| 122                        | 3                           | 0.5    | 0.5    | 0.5    | 426                   | 405    | 444    | 387    |
| 123                        | 2                           | -      | -      | -      | 428                   | -      | -      | -      |
| 124                        | 2                           | -      | -      | -      | 430                   | -      | -      | -      |
| 125                        | 1.5                         | -      | -      | -      | 431                   | -      | -      | -      |
| 126                        | 1.2                         | -      | -      | -      | 432                   | -      | -      | -      |
| 127                        | 1.6                         | -      | -      | -      | 434                   | -      | -      | -      |
| 128                        | 1.5                         | -      | -      | -      | 435                   | -      | -      | -      |
| 129                        | 1.5                         | -      | -      | -      | 437                   | -      | -      | -      |
| 130                        | 1.7                         | -      | -      | -      | 439                   | -      | -      | -      |
| 131                        | 1.4                         | -      | -      | -      | 440                   | -      | -      | -      |
| 132                        | 1.3                         | -      | -      | -      | 441                   | -      | -      | -      |
| 133                        | 1                           | -      | -      | -      | 442                   | -      | -      | -      |
| 134                        | 1.2                         | -      | -      | -      | 443                   | -      | -      | -      |
| 135                        | 1.5                         | -      | -      | -      | 445                   | -      | -      | -      |
| 136                        | 1.5                         | -      | -      | -      | 446                   | -      | -      | -      |
| 137                        | 1                           | -      | -      | -      | 447                   | -      | -      | -      |
| 138                        | 1                           | -      | -      | -      | 448                   | -      | -      | -      |
| 139                        | 1                           | -      | -      | -      | 449                   | -      | -      | -      |
| 140                        | 0.5                         | -      | -      | -      | 450                   | -      | -      | -      |
| 141                        | 0.5                         | -      | -      | -      | 450                   | -      | -      | -      |
| 142                        | 0.5                         | -      | -      | -      | 451                   | -      | -      | -      |
| 143                        | 0.5                         | -      | -      | -      | 451                   | -      | -      | -      |
| 144                        | 0.2                         | -      | -      | -      | 452                   | -      | -      | -      |
| 145                        | 0.8                         | -      | -      | -      | 452                   | -      | -      | -      |
| 146                        | 0.6                         | -      | -      | -      | 453                   | -      | -      | -      |
| 147                        | 0.4                         | -      | -      | -      | 453                   | -      | -      | -      |
| 148                        | 0.5                         | -      | -      | -      | 454                   | -      | -      | -      |
| 149                        | 0.3                         | -      | -      | -      | 454                   | -      | -      | -      |
| 150                        | 0.5                         | -      | -      | -      | 455                   | -      | -      | -      |

**ภาคผนวก ข องค์ประกอบก๊าซ**

การสร้างถังปฏิกิริยาที่มีสถานะเสถียร  
(ST 1-1, ST 1-2, ST 1-3 และ ST 1-4)

ตาราง ข องค์ประกอบก๊าซ

| ร้อยละขององค์ประกอบก๊าซที่เกิดจากถังปฏิบัติการยา |                 |                 |                |                |                 |                 |                |                |                 |                 |                |                |                 |                 |                |                |  |
|--------------------------------------------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|--|
| ระยะเวลา                                         | ST 1-1          |                 |                |                | ST 1-2          |                 |                |                | ST 1-3          |                 |                |                | ST 1-4          |                 |                |                |  |
|                                                  | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> | O <sub>2</sub> | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> | O <sub>2</sub> | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> | O <sub>2</sub> | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> | O <sub>2</sub> |  |
| การทดลอง (วัน)                                   |                 |                 |                |                |                 |                 |                |                |                 |                 |                |                |                 |                 |                |                |  |
| 1                                                | -               | -               | -              | -              | -               | -               | -              | -              | 61.7            | 2.92            | 33.6           | 3.85           | 57.0            | 11.0            | 30.2           | 7.76           |  |
| 4                                                | -               | -               | -              | -              | -               | -               | -              | -              | 78.4            | 13.4            | 5.98           | 0.47           | 74.8            | 25.9            | 5.22           | 0.37           |  |
| 7                                                | -               | -               | -              | -              | 58.7            | 16.0            | 24.8           | 5.11           | 76.8            | 18.4            | 5.04           | 0.45           | 68.9            | 28.1            | 4.30           | 0.61           |  |
| 11                                               | 70.8            | 14.4            | 6.60           | 0.31           | 67.7            | 23.7            | 14.8           | 1.03           | 60.7            | 28.4            | 17.8           | 2.64           | 53.6            | 49.8            | 1.54           | 0.39           |  |
| 14                                               | 66.8            | 14.0            | 25.0           | 4.39           | 63.2            | 32.6            | 11.7           | 1.21           | 60.8            | 34.2            | 13.3           | 0.80           | 41.2            | 50.0            | 12.43          | 2.90           |  |
| 18                                               | 62.3            | 13.3            | 32.1           | 5.12           | 34.3            | 55.1            | 15.4           | 2.76           | 56.3            | 44.0            | 10.6           | 0.68           | 31.3            | 72.8            | 3.07           | 0.29           |  |
| 21                                               | 52.5            | 25.8            | 24.9           | 4.29           | 41.6            | 58.8            | 1.91           | 0.42           | 40.0            | 57.6            | 5.86           | 0.22           | 24.4            | 73.8            | 4.31           | 0.27           |  |
| 25                                               | 43.2            | 32.5            | 22.7           | 3.03           | 37.8            | 63.0            | 3.01           | 0.81           | 30.5            | 65.9            | 5.30           | 0.46           | 27.2            | 70.1            | 5.60           | 0.46           |  |
| 28                                               | 30.2            | 40.2            | 22.0           | 1.83           | 34.7            | 70.1            | 0.87           | 0.26           | 27.3            | 76.5            | 3.08           | 0.27           | 22.4            | 75.3            | 3.12           | 0.29           |  |
| 32                                               | 39.3            | 44.8            | 18.9           | 0.30           | 31.1            | 66.5            | 3.52           | 0.98           | 25.3            | 73.9            | 1.01           | 0.24           | 22.4            | 76.5            | 2.41           | 0.31           |  |
| 35                                               | 41.4            | 55.1            | 8.96           | 0.28           | 22.7            | 80.3            | 1.21           | 0.28           | 25.4            | 78.3            | 0.83           | 0.27           | 25.9            | 74.9            | 3.06           | 0.27           |  |
| 39                                               | 21.0            | 73.6            | 8.20           | 1.54           | 21.2            | 78.3            | 5.26           | 0.98           | 18.4            | 84.3            | 1.64           | 0.54           | 23.2            | 75.2            | 2.93           | 0.34           |  |
| 42                                               | 32.4            | 63.9            | 4.55           | 0.84           | 22.6            | 78.7            | 4.12           | 1.00           | 20.4            | 82.4            | 1.75           | 0.52           | 28.9            | 71.4            | 4.37           | 0.47           |  |
| 46                                               | 48.2            | 52.8            | 3.20           | 0.58           | 28.2            | 74.4            | 1.54           | 0.40           | 28.4            | 76.7            | 2.80           | 0.80           | 23.1            | 76.8            | 3.17           | 0.35           |  |
| 49                                               | 32.5            | 58.0            | 1.38           | 0.24           | 25.0            | 75.3            | 0.78           | 0.21           | 29.8            | 79.5            | 0.85           | 0.21           | 25.4            | 75.5            | 0.92           | 0.27           |  |
| 53                                               | 43.9            | 61.8            | 1.29           | 0.29           | 30.0            | 73.9            | 0.84           | 0.22           | 27.5            | 79.3            | 0.94           | 0.27           | 27.2            | 76.1            | 0.68           | 0.23           |  |

ตาราง ข องค์ประกอบก๊าซ (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ร้อยละขององค์ประกอบก๊าซที่เกิดขึ้นจากถังปฏิกิริยา |                 |                |                |                 |                 |                |                |                 |                 |                |                |                 |                 |                |                |
|----------------------------|---------------------------------------------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|
|                            | ST 1-1                                            |                 |                |                | ST 1-2          |                 |                |                | ST 1-3          |                 |                |                | ST 1-4          |                 |                |                |
|                            | CO <sub>2</sub>                                   | CH <sub>4</sub> | N <sub>2</sub> | O <sub>2</sub> | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> | O <sub>2</sub> | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> | O <sub>2</sub> | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> | O <sub>2</sub> |
| 56                         | 30.8                                              | 72.6            | 1.85           | 0.42           | 22.8            | 81.8            | 2.43           | 0.70           | 20.2            | 83.3            | 1.68           | 0.42           | 20.8            | 79.0            | 2.11           | 0.41           |
| 60                         | 28.0                                              | 73.3            | 0.84           | 0.22           | 25.4            | 78.6            | 1.52           | 0.44           | 26.8            | 81.1            | 0.83           | 0.23           | 22.2            | 79.2            | 1.23           | 0.30           |
| 63                         | 28.2                                              | 76.2            | 0.62           | 0.15           | 18.3            | 80.2            | 1.60           | 0.48           | 17.6            | 89.1            | 1.64           | 0.29           | 18.4            | 80.3            | 0.78           | 0.23           |
| 67                         | 30.8                                              | 77.7            | 0.89           | 0.26           | 24.0            | 79.9            | 1.12           | 0.29           | 25.2            | 83.4            | 0.73           | 0.19           | 24.4            | 78.2            | 1.12           | 0.21           |
| 70                         | 20.9                                              | 85.2            | 2.65           | 0.72           | 23.2            | 82.8            | 3.12           | 0.86           | 22.5            | 86.8            | 1.35           | 0.39           | 25.3            | 80.3            | 2.73           | 0.72           |
| 74                         | 25.4                                              | 83.4            | 1.14           | 0.32           | 22.8            | 84.6            | 0.91           | 0.23           | 26.4            | 82.9            | 1.01           | 0.28           | 23.2            | 82.8            | 0.97           | 0.29           |
| 77                         | 25.9                                              | 79.3            | 1.03           | 0.26           | 22.4            | 81.6            | 1.07           | 0.21           | 20.9            | 87.0            | 1.00           | 0.28           | 22.7            | 83.2            | 1.30           | 0.32           |
| 81                         | 23.5                                              | 80.4            | 0.75           | 0.32           | 22.5            | 82.0            | 1.22           | 0.33           | 22.0            | 77.9            | 1.29           | 0.36           | 23.6            | 84.0            | 1.08           | 0.19           |
| 84                         | 22.2                                              | 81.9            | 0.95           | 0.26           | 25.9            | 76.2            | 1.87           | 0.48           | 23.7            | 83.7            | 0.86           | 0.21           | 24.8            | 81.2            | 0.97           | 0.28           |
| 88                         | 27.9                                              | 76.1            | 1.34           | 0.51           | 24.0            | 73.5            | 1.93           | 0.31           | 25.6            | 83.2            | 1.14           | 0.30           | 21.3            | 80.2            | 1.72           | 0.40           |
| 91                         | 22.1                                              | 75.5            | 3.72           | 0.82           | 12.1            | 80.0            | 3.91           | 0.44           | 18.1            | 79.1            | 5.8            | 0.94           | 23.1            | 79.6            | 4.79           | 0.84           |
| 95                         | 23.8                                              | 80.5            | 2.68           | 0.5            | 28.5            | 74.8            | 4.52           | 0.53           | 26.3            | 76.4            | 4.47           | 0.58           | 26.1            | 75.1            | 7.5            | 0.42           |
| 98                         | 24.9                                              | 79.8            | 3.24           | 0.65           | 27.1            | 73.0            | 6.36           | 1.02           | 28.1            | 71.9            | 5.78           | 0.86           | 25.9            | 70.3            | 12.9           | 0.83           |
| 102                        | 25.1                                              | 82.4            | 1.23           | 0.35           | 25.6            | 70.0            | 16.1           | 0.93           | 27.4            | 64.5            | 19.9           | 0.67           | 20.7            | 67.2            | 19.1           | 0.43           |
| 105                        | 24.6                                              | 83.2            | 1.16           | 0.34           | 26.6            | 58.7            | 20.3           | 0.75           | 21.2            | 67.7            | 20.1           | 0.43           | 19.1            | 66.3            | 18.3           | 0.67           |
| 109                        | 19.3                                              | 86.0            | 3.25           | 0.68           | 26.7            | 66.2            | 16.2           | 0.48           | 27.5            | 61.3            | 20.2           | 0.93           | 24.3            | 62.7            | 20.7           | 0.46           |



## ภาคผนวก ก ปริมาณก๊าซแต่ละชนิด

การสร้างถังปฏิบัติการที่มีสถานะเสถียร

(ST 1-1, ST 1-2, ST 1-3 และ ST 1-4)

ตาราง ค ปริมาณก๊าซแต่ละชนิด

| ระยะเวลาการ<br>ทดลอง (วัน) | ปริมาณก๊าซ CO <sub>2</sub> (ลิตร) |      |      |      | ปริมาณ CH <sub>4</sub> (ลิตร) |      |      |      | ปริมาณ N <sub>2</sub> (ลิตร) |      |      |      | ปริมาณ O <sub>2</sub> (ลิตร) |      |      |      |
|----------------------------|-----------------------------------|------|------|------|-------------------------------|------|------|------|------------------------------|------|------|------|------------------------------|------|------|------|
|                            | 1                                 | 2    | 3    | 4    | 1                             | 2    | 3    | 4    | 1                            | 2    | 3    | 4    | 1                            | 2    | 3    | 4    |
| 1                          | -                                 | -    | 6.79 | 7.18 | -                             | -    | 0.32 | 1.39 | -                            | -    | 3.69 | 3.81 | -                            | -    | 0.42 | 0.98 |
| 4                          | -                                 | -    | 8.23 | 3.74 | -                             | -    | 1.41 | 1.30 | -                            | -    | 0.63 | 0.26 | -                            | -    | 0.05 | 0.02 |
| 7                          | -                                 | 2.17 | 1.54 | 2.34 | -                             | 0.59 | 0.37 | 0.96 | -                            | 0.92 | 0.10 | 0.15 | -                            | 0.19 | 0.01 | 0.02 |
| 11                         | 1.06                              | 1.69 | 1.21 | 0.80 | 0.22                          | 0.59 | 0.57 | 0.75 | 0.10                         | 0.37 | 0.36 | 0.02 | 0.00                         | 0.03 | 0.05 | 0.01 |
| 14                         | 0.33                              | 0.63 | 0.61 | 0.62 | 0.07                          | 0.33 | 0.34 | 0.75 | 0.13                         | 0.12 | 0.13 | 0.19 | 0.02                         | 0.01 | 0.01 | 0.04 |
| 18                         | 0.37                              | 0.75 | 0.84 | 0.78 | 0.08                          | 1.21 | 0.66 | 1.82 | 0.19                         | 0.34 | 0.16 | 0.08 | 0.03                         | 0.06 | 0.01 | 0.01 |
| 21                         | 0.37                              | 0.83 | 0.80 | 1.59 | 0.18                          | 1.18 | 1.15 | 4.80 | 0.17                         | 0.04 | 0.12 | 0.28 | 0.03                         | 0.01 | 0.00 | 0.02 |
| 25                         | 0.26                              | 1.89 | 1.53 | 2.39 | 0.19                          | 3.15 | 3.30 | 6.17 | 0.14                         | 0.15 | 0.27 | 0.49 | 0.02                         | 0.04 | 0.02 | 0.04 |
| 28                         | 0.45                              | 3.40 | 3.14 | 1.32 | 0.60                          | 6.87 | 8.80 | 4.44 | 0.33                         | 0.09 | 0.35 | 0.18 | 0.03                         | 0.03 | 0.03 | 0.02 |
| 32                         | 1.18                              | 2.33 | 2.73 | 1.68 | 1.34                          | 4.98 | 7.98 | 5.73 | 0.57                         | 0.26 | 0.11 | 0.18 | 0.01                         | 0.07 | 0.03 | 0.02 |
| 35                         | 0.41                              | 1.36 | 1.01 | 1.43 | 0.55                          | 4.82 | 3.13 | 4.12 | 0.09                         | 0.07 | 0.03 | 0.17 | 0.00                         | 0.02 | 0.01 | 0.01 |
| 39                         | 0.32                              | 2.12 | 1.29 | 1.39 | 1.10                          | 7.83 | 5.90 | 4.51 | 0.12                         | 0.53 | 0.11 | 0.18 | 0.02                         | 0.10 | 0.04 | 0.02 |
| 42                         | 0.49                              | 1.81 | 0.82 | 1.16 | 0.96                          | 6.29 | 3.30 | 2.85 | 0.07                         | 0.33 | 0.07 | 0.17 | 0.01                         | 0.08 | 0.02 | 0.02 |
| 46                         | 0.96                              | 2.25 | 0.99 | 0.93 | 1.06                          | 5.95 | 2.68 | 3.07 | 0.06                         | 0.12 | 0.10 | 0.13 | 0.01                         | 0.03 | 0.03 | 0.01 |
| 49                         | 0.97                              | 1.00 | 1.49 | 1.02 | 1.74                          | 3.01 | 3.97 | 3.02 | 0.04                         | 0.03 | 0.04 | 0.04 | 0.01                         | 0.01 | 0.01 | 0.01 |
| 53                         | 1.49                              | 1.35 | 1.38 | 1.09 | 2.10                          | 3.33 | 3.96 | 3.05 | 0.04                         | 0.04 | 0.05 | 0.03 | 0.01                         | 0.01 | 0.01 | 0.01 |
| 56                         | 1.14                              | 0.91 | 1.21 | 0.83 | 2.68                          | 3.27 | 5.00 | 3.16 | 0.07                         | 0.10 | 0.10 | 0.08 | 0.02                         | 0.03 | 0.03 | 0.02 |

ตาราง ค ปริมาณก๊าซแต่ละชนิด (ต่อ)

| ระยะเวลาการ<br>ทดลอง (วัน) | ปริมาณก๊าซ CO <sub>2</sub> (ลิตร) |      |      |      | ปริมาณ CH <sub>4</sub> (ลิตร) |      |      |      | ปริมาณ N <sub>2</sub> (ลิตร) |      |      |      | ปริมาณ O <sub>2</sub> (ลิตร) |      |      |      |
|----------------------------|-----------------------------------|------|------|------|-------------------------------|------|------|------|------------------------------|------|------|------|------------------------------|------|------|------|
|                            | 1                                 | 2    | 3    | 4    | 1                             | 2    | 3    | 4    | 1                            | 2    | 3    | 4    | 1                            | 2    | 3    | 4    |
| 60                         | 1.12                              | 0.76 | 1.07 | 0.67 | 2.93                          | 2.36 | 3.25 | 2.38 | 0.03                         | 0.05 | 0.03 | 0.04 | 0.01                         | 0.01 | 0.01 | 0.01 |
| 63                         | 1.41                              | 0.73 | 0.70 | 0.64 | 3.81                          | 3.21 | 3.56 | 2.81 | 0.03                         | 0.06 | 0.07 | 0.03 | 0.01                         | 0.02 | 0.01 | 0.01 |
| 67                         | 1.85                              | 0.72 | 0.81 | 0.73 | 4.66                          | 2.40 | 2.67 | 2.35 | 0.05                         | 0.03 | 0.02 | 0.03 | 0.02                         | 0.01 | 0.01 | 0.01 |
| 70                         | 1.05                              | 0.81 | 0.90 | 0.63 | 4.26                          | 2.90 | 3.47 | 2.01 | 0.13                         | 0.11 | 0.05 | 0.07 | 0.04                         | 0.03 | 0.02 | 0.02 |
| 74                         | 1.22                              | 0.68 | 0.79 | 0.70 | 4.01                          | 2.54 | 2.49 | 2.49 | 0.05                         | 0.03 | 0.03 | 0.03 | 0.02                         | 0.01 | 0.01 | 0.01 |
| 77                         | 1.55                              | 0.90 | 0.63 | 0.68 | 4.76                          | 3.26 | 2.61 | 2.49 | 0.06                         | 0.04 | 0.03 | 0.04 | 0.02                         | 0.01 | 0.01 | 0.01 |
| 81                         | 1.17                              | 0.22 | 0.44 | 0.24 | 4.02                          | 0.82 | 1.56 | 0.84 | 0.04                         | 0.01 | 0.03 | 0.01 | 0.02                         | 0.00 | 0.01 | 0.00 |
| 84                         | 1.11                              | 0.52 | 0.71 | 0.62 | 4.10                          | 1.52 | 2.51 | 2.03 | 0.05                         | 0.04 | 0.03 | 0.02 | 0.01                         | 0.01 | 0.01 | 0.01 |
| 88                         | 0.56                              | 0.36 | 1.28 | 0.32 | 1.52                          | 0.76 | 4.16 | 1.20 | 0.03                         | 0.03 | 0.06 | 0.03 | 0.01                         | 0.00 | 0.02 | 0.01 |
| 91                         | 1.33                              | 0.12 | 0.36 | 0.35 | 4.53                          | 0.80 | 1.58 | 1.19 | 0.22                         | 0.04 | 0.12 | 0.07 | 0.05                         | 0.00 | 0.02 | 0.01 |
| 95                         | 0.95                              | 0.28 | 0.58 | 0.26 | 3.22                          | 0.75 | 1.68 | 0.75 | 0.11                         | 0.05 | 0.10 | 0.08 | 0.02                         | 0.01 | 0.01 | 0.00 |
| 98                         | 1.00                              | 0.38 | 0.28 | 0.52 | 3.19                          | 1.02 | 0.72 | 1.41 | 0.13                         | 0.09 | 0.06 | 0.26 | 0.03                         | 0.01 | 0.01 | 0.02 |
| 102                        | 1.26                              | 0.38 | 0.41 | 0.41 | 4.12                          | 1.00 | 0.97 | 1.34 | 0.06                         | 0.24 | 0.30 | 0.38 | 0.02                         | 0.01 | 0.01 | 0.01 |
| 105                        | 0.98                              | 0.27 | 0.17 | 0.25 | 3.33                          | 0.91 | 0.54 | 0.86 | 0.05                         | 0.20 | 0.16 | 0.24 | 0.01                         | 0.01 | 0.00 | 0.01 |
| 109                        | 0.58                              | 0.08 | 0.08 | 0.12 | 2.58                          | 0.20 | 0.18 | 0.31 | 0.10                         | 0.05 | 0.06 | 0.10 | 0.02                         | 0.00 | 0.00 | 0.00 |
| 112                        | 1.12                              | 0.09 | 0.13 | 0.10 | 3.17                          | 0.08 | 0.27 | 0.24 | 0.06                         | 0.05 | 0.15 | 0.09 | 0.02                         | 0.00 | 0.00 | 0.00 |
| 116                        | 1.25                              | 0.14 | 0.19 | 0.10 | 3.44                          | 0.30 | 0.39 | 0.21 | 0.12                         | 0.07 | 0.28 | 0.12 | 0.03                         | 0.00 | 0.01 | 0.00 |

ภาคผนวก ค ปริมาณก๊าซแต่ละชนิด (ต่อ)

| ระยะเวลาการทดลอง (วัน) | ปริมาณก๊าซ CO <sub>2</sub> (ลิตร) |      |      |      | ปริมาณ CH <sub>4</sub> (ลิตร) |      |      |      | ปริมาณ N <sub>2</sub> (ลิตร) |      |      |      | ปริมาณ O <sub>2</sub> (ลิตร) |      |      |      |
|------------------------|-----------------------------------|------|------|------|-------------------------------|------|------|------|------------------------------|------|------|------|------------------------------|------|------|------|
|                        | 1                                 | 2    | 3    | 4    | 1                             | 2    | 3    | 4    | 1                            | 2    | 3    | 4    | 1                            | 2    | 3    | 4    |
| 119                    | 0.75                              | 0.15 | 0.12 | 0.07 | 2.59                          | 0.31 | 0.25 | 0.15 | 0.04                         | 0.06 | 0.16 | 0.09 | 0.01                         | 0.00 | 0.00 | 0.00 |
| 123                    | 0.34                              | -    | -    | -    | 1.63                          | -    | -    | -    | 0.21                         | -    | -    | -    | 0.01                         | -    | -    | -    |
| 126                    | 0.30                              | -    | -    | -    | 0.87                          | -    | -    | -    | 0.05                         | -    | -    | -    | 0.01                         | -    | -    | -    |
| 130                    | 0.43                              | -    | -    | -    | 1.03                          | -    | -    | -    | 0.39                         | -    | -    | -    | 0.01                         | -    | -    | -    |
| 133                    | 0.25                              | -    | -    | -    | 0.47                          | -    | -    | -    | 0.42                         | -    | -    | -    | 0.01                         | -    | -    | -    |
| 137                    | 0.24                              | -    | -    | -    | 0.47                          | -    | -    | -    | 0.32                         | -    | -    | -    | 0.01                         | -    | -    | -    |
| 140                    | 0.12                              | -    | -    | -    | 0.21                          | -    | -    | -    | 0.19                         | -    | -    | -    | 0.00                         | -    | -    | -    |
| 144                    | 0.04                              | -    | -    | -    | 0.06                          | -    | -    | -    | 0.10                         | -    | -    | -    | 0.00                         | -    | -    | -    |
| 147                    | 0.10                              | -    | -    | -    | 0.12                          | -    | -    | -    | 0.18                         | -    | -    | -    | 0.00                         | -    | -    | -    |

## ภาคผนวก ง ปริมาณก๊าซมีเทน

การสร้างถังปฏิกิริยาที่มีสถานะเสถียร  
(ST 1-1, ST 1-2, ST 1-3 และ ST 1-4)

ตาราง ง ปริมาณก๊าซมีเทน

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซมีเทน (ลิตร) |        |        |        |
|----------------------------|------------------------|--------|--------|--------|
|                            | ST 1-1                 | ST 1-2 | ST 1-3 | ST 1-4 |
| 1                          | -                      | -      | 0.32   | 1.39   |
| 4                          | -                      | -      | 1.41   | 1.30   |
| 7                          | -                      | 0.59   | 0.37   | 0.96   |
| 11                         | 0.22                   | 0.59   | 0.57   | 0.75   |
| 14                         | 0.07                   | 0.33   | 0.34   | 0.75   |
| 18                         | 0.08                   | 1.21   | 0.66   | 1.82   |
| 21                         | 0.18                   | 1.18   | 1.15   | 4.80   |
| 25                         | 0.19                   | 3.15   | 3.30   | 6.17   |
| 28                         | 0.60                   | 6.87   | 8.80   | 4.44   |
| 32                         | 1.34                   | 4.98   | 7.98   | 5.73   |
| 35                         | 0.55                   | 4.82   | 3.13   | 4.12   |
| 39                         | 1.10                   | 7.83   | 5.90   | 4.51   |
| 42                         | 0.96                   | 6.29   | 3.30   | 2.85   |
| 46                         | 1.06                   | 5.95   | 2.68   | 3.07   |
| 49                         | 1.74                   | 3.01   | 3.97   | 3.02   |
| 53                         | 2.10                   | 3.33   | 3.96   | 3.05   |
| 56                         | 2.68                   | 3.27   | 5.00   | 3.16   |
| 60                         | 2.93                   | 2.36   | 3.25   | 2.38   |
| 63                         | 3.81                   | 3.21   | 3.56   | 2.81   |
| 67                         | 4.66                   | 2.40   | 2.67   | 2.35   |
| 70                         | 4.26                   | 2.90   | 3.47   | 2.01   |
| 74                         | 4.01                   | 2.54   | 2.49   | 2.49   |
| 77                         | 4.76                   | 3.26   | 2.61   | 2.49   |
| 81                         | 4.02                   | 0.82   | 1.56   | 0.84   |
| 84                         | 4.10                   | 1.52   | 2.51   | 2.03   |
| 88                         | 1.52                   | 0.76   | 4.16   | 1.20   |
| 91                         | 4.53                   | 0.80   | 1.58   | 1.19   |
| 95                         | 3.22                   | 0.75   | 1.68   | 0.75   |
| 98                         | 3.19                   | 1.02   | 0.72   | 1.41   |

ตาราง ปริมาณก๊าซมีเทน (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซมีเทน (ลิตร) |        |        |        |
|----------------------------|------------------------|--------|--------|--------|
|                            | ST 1-1                 | ST 1-2 | ST 1-3 | ST 1-4 |
| 102                        | 4.12                   | 1.00   | 0.97   | 1.34   |
| 105                        | 3.33                   | 0.91   | 0.54   | 0.86   |
| 109                        | 2.58                   | 0.20   | 0.18   | 0.31   |
| 112                        | 3.17                   | 0.08   | 0.27   | 0.24   |
| 116                        | 3.44                   | 0.30   | 0.39   | 0.21   |
| 119                        | 3.65                   | 0.31   | 0.25   | 0.15   |
| 123                        | 2.45                   | -      | -      | -      |
| 126                        | 2.55                   | -      | -      | -      |
| 130                        | 1.82                   | -      | -      | -      |
| 133                        | 0.94                   | -      | -      | -      |
| 137                        | 0.47                   | -      | -      | -      |
| 140                        | 0.21                   | -      | -      | -      |
| 144                        | 0.30                   | -      | -      | -      |
| 147                        | 0.25                   | -      | -      | -      |

## ภาคผนวก จ ลักษณะน้ำชะมูลฝอย

การสร้างถังปฏิบัติการที่มีสภาวะเสถียร  
(ST 1-1, ST 1-2, ST 1-3 และ ST 1-4)

ตาราง จ.1 พิเศษ

| ระยะเวลา<br>การทดลอง (วัน) | ค่า pH ในน้ำชะมูลฝอยของถังปฏิกริยา |        |        |        |
|----------------------------|------------------------------------|--------|--------|--------|
|                            | ST 1-1                             | ST 1-2 | ST 1-3 | ST 1-4 |
| 1                          | 5.21                               | 5.27   | 6.23   | 5.67   |
| 4                          | 6.73                               | 5.77   | 6.29   | 6.1    |
| 7                          | 6.48                               | 6.45   | 6.43   | 6.57   |
| 11                         | 6.53                               | 6.44   | 6.34   | 6.42   |
| 14                         | 6.7                                | 6.95   | 6.46   | 6.8    |
| 18                         | 5.77                               | 6.26   | 6.72   | 6.66   |
| 21                         | 5.78                               | 6.32   | 6.72   | 6.64   |
| 25                         | 5.8                                | 6.48   | 6.64   | 6.94   |
| 28                         | 5.72                               | 6.87   | 7.07   | 7.45   |
| 32                         | 5.78                               | 7.56   | 7.45   | 8.18   |
| 35                         | 5.87                               | 7.6    | 7.42   | 7.43   |
| 39                         | 5.87                               | 7.86   | 7.42   | 7.89   |
| 42                         | 5.93                               | 7.73   | 7.68   | 8.16   |
| 46                         | 6.1                                | 7.73   | 7.97   | 8.42   |
| 49                         | 7.02                               | 8.18   | 8.11   | 8.35   |
| 53                         | 6.09                               | 7.92   | 7.94   | 8.42   |
| 56                         | 6.12                               | 7.96   | 7.88   | 8.18   |
| 60                         | 6.33                               | 8.17   | 7.92   | 8.21   |
| 63                         | 7.36                               | 8.1    | 7.97   | 8.09   |
| 67                         | 7.64                               | 7.84   | 7.93   | 7.99   |
| 70                         | 7.43                               | 8.04   | 8.06   | 8.31   |
| 74                         | 7.66                               | 8.01   | 7.99   | 8.4    |
| 77                         | 7.34                               | 7.83   | 7.96   | 8.08   |
| 81                         | 7.34                               | 7.96   | 8.02   | 8.16   |
| 84                         | 7.82                               | 8.13   | 8.17   | 8.06   |
| 89                         | 7.66                               | 8.06   | 8.05   | 8.19   |
| 91                         | 7.53                               | 7.97   | 8.01   | 8.21   |
| 95                         | 7.36                               | 7.76   | 7.89   | 7.93   |

ตาราง จ.1 พีเอช (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ค่า pH ในน้ำชะมูลฝอยของถังปฏิบัติการ |        |        |        |
|----------------------------|--------------------------------------|--------|--------|--------|
|                            | ST 1-1                               | ST 1-2 | ST 1-3 | ST 1-4 |
| 98                         | 7.36                                 | 8.16   | 8.18   | 8.04   |
| 102                        | 7.76                                 | 8.06   | 8.14   | 8.14   |
| 105                        | 7.77                                 | 8.02   | 8.1    | 8.38   |
| 109                        | 7.99                                 | 8.15   | 8.18   | 8.05   |
| 112                        | 7.74                                 | 7.94   | 8.06   | 8.19   |
| 119                        | 8.25                                 | 8.10   | 8.11   | 8.25   |
| 125                        | 8.17                                 | -      | -      | -      |
| 129                        | 8.23                                 | -      | -      | -      |
| 132                        | 8.25                                 | -      | -      | -      |
| 136                        | 8.06                                 | -      | -      | -      |
| 139                        | 8.14                                 | -      | -      | -      |
| 143                        | 8.1                                  | -      | -      | -      |
| 146                        | 8.27                                 | -      | -      | -      |
| 150                        | 8.16                                 | -      | -      | -      |

ตาราง จ.2 ความเป็นด่าง

| ระยะเวลา<br>การทดลอง (วัน) | ความเป็นด่าง (มก./ลิ CaCO <sub>3</sub> ) |        |        |        |
|----------------------------|------------------------------------------|--------|--------|--------|
|                            | ST 1-1                                   | ST 1-2 | ST 1-3 | ST 1-4 |
| 1                          | 1040                                     | 1580   | 4050   | 1830   |
| 4                          | 4540                                     | 1690   | 4260   | 2120   |
| 7                          | 7040                                     | 4140   | 9260   | 4020   |
| 11                         | 5640                                     | 6460   | 9750   | 5390   |
| 14                         | 7430                                     | 7280   | 9870   | 7370   |
| 18                         | 7540                                     | 7180   | 9640   | 7440   |
| 21                         | 6580                                     | 5830   | 6370   | 6550   |
| 25                         | 12900                                    | 10600  | 11500  | 9580   |
| 28                         | 9710                                     | 10000  | 9310   | 8910   |
| 32                         | 9780                                     | 10100  | 9500   | 8980   |
| 35                         | 10000                                    | 10300  | 10700  | 8910   |
| 39                         | 9130                                     | 11500  | 11400  | 8400   |
| 42                         | 10300                                    | 12200  | 12100  | 9420   |
| 46                         | 8440                                     | 11000  | 12200  | 7640   |
| 49                         | 12500                                    | 12000  | 11400  | 10900  |
| 53                         | 11200                                    | 9490   | 12800  | 8590   |
| 56                         | 11500                                    | 9020   | 9930   | 8040   |
| 60                         | 9060                                     | 9850   | 9130   | 8480   |
| 63                         | 8260                                     | 8120   | 8840   | 8330   |
| 67                         | 8300                                     | 10400  | 11800  | 8990   |
| 70                         | 9670                                     | 10400  | 9710   | 9020   |
| 74                         | 8980                                     | 12200  | 11400  | 8490   |
| 77                         | 9970                                     | 10000  | 9030   | 9000   |
| 81                         | 9570                                     | 9360   | 9310   | 8080   |
| 84                         | 9460                                     | 11000  | 10100  | 8080   |
| 89                         | 9570                                     | 9360   | 9310   | 8080   |
| 91                         | 9600                                     | 9670   | 10100  | 8880   |
| 95                         | 9700                                     | 10600  | 10700  | 9020   |

ตาราง จ.2 ความเป็นด่าง (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ความเป็นด่าง (มก./ลิ CaCO <sub>3</sub> ) |        |        |        |
|----------------------------|------------------------------------------|--------|--------|--------|
|                            | ST 1-1                                   | ST 1-2 | ST 1-3 | ST 1-4 |
| 98                         | 9800                                     | 9600   | 10500  | 7650   |
| 102                        | 10400                                    | 11500  | 9900   | 9900   |
| 105                        | 9500                                     | 11500  | 9320   | 7170   |
| 109                        | 10800                                    | 9940   | 11300  | 9900   |
| 112                        | 12100                                    | 11700  | 11200  | 10300  |
| 119                        | 9720                                     | 12800  | 12200  | 10400  |
| 125                        | 9330                                     | -      | -      | -      |
| 129                        | 11200                                    | -      | -      | -      |
| 132                        | 9900                                     | -      | -      | -      |
| 136                        | 10100                                    | -      | -      | -      |
| 139                        | 10300                                    | -      | -      | -      |
| 143                        | 10700                                    | -      | -      | -      |
| 146                        | 11800                                    | -      | -      | -      |
| 150                        | 11100                                    | -      | -      | -      |

ตาราง จ.3 ความเป็นกรดระเหย

| ระยะเวลา<br>การทดลอง (วัน) | ความเป็นกรดระเหย (มก./ล CaCO <sub>3</sub> ) |        |        |        |
|----------------------------|---------------------------------------------|--------|--------|--------|
|                            | ST 1-1                                      | ST 1-2 | ST 1-3 | ST 1-4 |
| 1                          | 3130                                        | 1990   | 1420   | 2070   |
| 4                          | 4440                                        | 2170   | 1760   | 3000   |
| 7                          | 5700                                        | 2550   | 8570   | 3650   |
| 11                         | 3530                                        | 4060   | 8320   | 3880   |
| 14                         | 4560                                        | 6450   | 6650   | 4230   |
| 18                         | 8950                                        | 6600   | 3760   | 5190   |
| 21                         | 9480                                        | 8170   | 8020   | 7760   |
| 25                         | 9170                                        | 5530   | 6810   | 6170   |
| 28                         | 8700                                        | 7680   | 7400   | 4820   |
| 32                         | 9080                                        | 7050   | 7140   | 4400   |
| 35                         | 10400                                       | 6480   | 6950   | 4070   |
| 39                         | 7090                                        | 6240   | 3260   | 2360   |
| 42                         | 11800                                       | 6100   | 4960   | 2320   |
| 46                         | 7090                                        | 5010   | 3740   | 2150   |
| 49                         | 11800                                       | 5530   | 4180   | 2790   |
| 53                         | 10400                                       | 3310   | 4210   | 3070   |
| 56                         | 7280                                        | 3030   | 2810   | 2510   |
| 60                         | 7920                                        | 2700   | 2080   | 2320   |
| 63                         | 8230                                        | 1750   | 1800   | 1940   |
| 67                         | 4940                                        | 2480   | 2030   | 1650   |
| 70                         | 5670                                        | 1890   | 1610   | 1470   |
| 74                         | 3640                                        | 2180   | 1470   | 1370   |
| 77                         | 5350                                        | 1610   | 995    | 774    |
| 81                         | 4930                                        | 1130   | 885    | 862    |
| 84                         | 4790                                        | 1050   | 730    | 752    |
| 88                         | 4930                                        | 1230   | 885    | 862    |
| 91                         | 4790                                        | 1050   | 730    | 752    |
| 95                         | 4800                                        | 674    | 708    | 575    |

ตาราง จ.3 ความเป็นกรดระเหย (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ความเป็นกรดระเหย (มก./ล CaCO <sub>3</sub> ) |        |        |        |
|----------------------------|---------------------------------------------|--------|--------|--------|
|                            | ST 1-1                                      | ST 1-2 | ST 1-3 | ST 1-4 |
| 98                         | 6840                                        | 314    | 553    | 376    |
| 102                        | 2000                                        | 242    | 230    | 214    |
| 105                        | 2100                                        | 293    | 248    | 177    |
| 109                        | 1740                                        | 248    | 257    | 172    |
| 112                        | 1480                                        | 264    | 266    | 172    |
| 119                        | 1190                                        | 298    | 312    | 219    |
| 125                        | 1140                                        | -      | -      | -      |
| 129                        | 652                                         | -      | -      | -      |
| 132                        | 483                                         | -      | -      | -      |
| 136                        | 436                                         | -      | -      | -      |
| 139                        | 275                                         | -      | -      | -      |
| 143                        | 210                                         | -      | -      | -      |
| 146                        | 185                                         | -      | -      | -      |
| 150                        | 221                                         | -      | -      | -      |

ตาราง จ.4 ซีโอดี

| ระยะเวลา<br>การทดลอง (วัน) | ซีโอดี (มก./ล) |        |        |        |
|----------------------------|----------------|--------|--------|--------|
|                            | ST 1-1         | ST 1-2 | ST 1-3 | ST 1-4 |
| 1                          | 18000          | 16400  | 11700  | 18000  |
| 4                          | 20600          | 14500  | 10400  | 17400  |
| 7                          | 20100          | 12900  | 24400  | 14700  |
| 11                         | 17000          | 11500  | 24200  | 15900  |
| 14                         | 25000          | 19300  | 27000  | 20400  |
| 18                         | 28000          | 23800  | 27200  | 25300  |
| 21                         | 26700          | 23800  | 22600  | 22200  |
| 25                         | 21600          | 2300   | 27100  | 30300  |
| 28                         | 30800          | 24400  | 25700  | 24300  |
| 32                         | 29200          | 23900  | 24700  | 24000  |
| 35                         | 31300          | 21200  | 24300  | 18700  |
| 39                         | 27600          | 18600  | 15500  | 16700  |
| 42                         | 29400          | 15500  | 17900  | 15300  |
| 46                         | 35200          | 14000  | 15200  | 13130  |
| 49                         | 26500          | 11900  | 13800  | 11300  |
| 53                         | 28500          | 7170   | 17300  | 10800  |
| 56                         | 25700          | 10100  | 9700   | 9140   |
| 60                         | 26000          | 9680   | 9600   | 9990   |
| 63                         | 25800          | 9260   | 9100   | 8570   |
| 67                         | 24600          | 7290   | 7820   | 5860   |
| 70                         | 19800          | 7470   | 6970   | 4360   |
| 74                         | 18900          | 6340   | 7290   | 4310   |
| 77                         | 18600          | 6170   | 7120   | 4160   |
| 81                         | 18300          | 4110   | 3630   | 3360   |
| 84                         | 18500          | 4600   | 4000   | 3800   |
| 89                         | 15300          | 4100   | 3830   | 3450   |
| 91                         | 14500          | 3180   | 3070   | 3630   |
| 95                         | 13200          | 2880   | 2790   | 2250   |

ตาราง จ.4 ซีโอดี (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ซีโอดี (มก./ล) |        |        |        |
|----------------------------|----------------|--------|--------|--------|
|                            | ST 1-1         | ST 1-2 | ST 1-3 | ST 1-4 |
| 98                         | 11900          | 3180   | 3070   | 3630   |
| 102                        | 11200          | 2880   | 2790   | 2250   |
| 105                        | 9720           | 2620   | 2490   | 3000   |
| 109                        | 8260           | 2530   | 2660   | 2470   |
| 112                        | 8000           | 2310   | 2450   | 2480   |
| 119                        | 3900           | 2350   | 2610   | 2370   |
| 125                        | 4310           | -      | -      | -      |
| 129                        | 3400           | -      | -      | -      |
| 132                        | 3300           | -      | -      | -      |
| 136                        | 3300           | -      | -      | -      |
| 139                        | 3780           | -      | -      | -      |
| 143                        | 2750           | -      | -      | -      |
| 146                        | 2950           | -      | -      | -      |
| 150                        | 3090           | -      | -      | -      |

## ภาคผนวก ก ปริมาณก๊าซ

ถึงปฏิกิริยาย่อยสลายมูลฝอยสด

(FR 2-1, FR 2-2, FR 2-3 และ FR 2-4)

## ตาราง จ ปริมาณก๊าซ

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซในแต่ละวัน (ลิตร) |             |             |             | ปริมาณก๊าซสะสม (ลิตร) |             |             |             |
|----------------------------|-----------------------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                  | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) | FR 2-1 (5)            | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 8.9                         | 9.4         | 10.5        | 10.5        | 8.9                   | 9.4         | 10.5        | 10.5        |
| 2                          | 10.5                        | 12.5        | 12.0        | 9.5         | 19.4                  | 21.9        | 22.5        | 20          |
| 3                          | 9.0                         | 8.5         | 9.5         | 10.4        | 28.4                  | 30.4        | 32.0        | 30.4        |
| 4                          | 9.0                         | 13.0        | 14.0        | 15.3        | 37.4                  | 43.4        | 46.0        | 45.7        |
| 5                          | 8.5                         | 16.5        | 16.5        | 19.5        | 45.9                  | 59.9        | 62.5        | 65.2        |
| 6                          | 4.4                         | 11.5        | 12.5        | 14.6        | 50.3                  | 71.4        | 75.0        | 79.8        |
| 7                          | 4.5                         | 7.6         | 10.0        | 12.0        | 54.8                  | 79.0        | 85.0        | 91.8        |
| 8                          | 5.0                         | 5.8         | 8.5         | 9.0         | 59.8                  | 84.8        | 93.5        | 101         |
| 9                          | 4.0                         | 6.6         | 7.5         | 8.0         | 63.8                  | 91.4        | 101         | 109         |
| 10                         | 3.5                         | 7.0         | 8.0         | 7.5         | 67.3                  | 98.4        | 109         | 116         |
| 11                         | 2.5                         | 6.0         | 5.5         | 5.9         | 69.8                  | 104         | 115         | 122         |
| 12                         | 5.0                         | 5.4         | 5.9         | 4.5         | 74.8                  | 110         | 120         | 127         |
| 13                         | 4.5                         | 3.8         | 5.4         | 6.7         | 79.3                  | 114         | 126         | 133         |
| 14                         | 3.5                         | 4.5         | 3.0         | 3.8         | 82.8                  | 118         | 129         | 137         |
| 15                         | 3.4                         | 3.6         | 4.5         | 5.4         | 86.2                  | 122         | 133         | 143         |
| 16                         | 2.9                         | 3.5         | 4.0         | 4.3         | 89.1                  | 125         | 137         | 147         |
| 17                         | 2.5                         | 3.0         | 3.5         | 3.9         | 91.6                  | 128         | 141         | 151         |
| 18                         | 3.5                         | 4.0         | 4.5         | 4.5         | 95.1                  | 132         | 145         | 155         |
| 19                         | 3.4                         | 5.0         | 6.5         | 5.5         | 98.5                  | 137         | 152         | 161         |
| 20                         | 4.0                         | 5.4         | 6.0         | 6.9         | 103                   | 143         | 158         | 168         |
| 21                         | 3.7                         | 4.0         | 5.5         | 6.0         | 106                   | 147         | 163         | 174         |
| 22                         | 6.5                         | 7.0         | 7.5         | 9.0         | 113                   | 154         | 171         | 183         |
| 23                         | 6.0                         | 7.0         | 7.5         | 8.5         | 119                   | 161         | 178         | 191         |
| 24                         | 7.5                         | 9.5         | 9.8         | 9.0         | 126                   | 170         | 188         | 200         |
| 25                         | 9.2                         | 10.0        | 10.2        | 10.0        | 135                   | 180         | 198         | 210         |
| 26                         | 8.5                         | 8.7         | 9.5         | 10.5        | 144                   | 189         | 208         | 221         |
| 27                         | 7.5                         | 8.5         | 9.0         | 9.5         | 151                   | 197         | 217         | 230         |
| 28                         | 7.2                         | 8.0         | 8.5         | 10.0        | 159                   | 205         | 225         | 240         |
| 29                         | 9.2                         | 9.0         | 9.5         | 10.5        | 168                   | 214         | 235         | 251         |
| 30                         | 8.5                         | 9.5         | 8.2         | 9.8         | 176                   | 224         | 243         | 261         |
| 31                         | 5.9                         | 9.2         | 8.5         | 10.0        | 182                   | 233         | 252         | 271         |
| 32                         | 4.8                         | 8.7         | 9.0         | 9.5         | 187                   | 242         | 261         | 280         |
| 33                         | 7.0                         | 9.0         | 9.0         | 10.2        | 194                   | 251         | 270         | 290         |
| 34                         | 8.0                         | 8.0         | 9.5         | 10.0        | 202                   | 259         | 279         | 300         |
| 35                         | 7.5                         | 9.5         | 9.0         | 9.5         | 210                   | 268         | 288         | 310         |
| 36                         | 6.9                         | 9.8         | 10.0        | 10.2        | 216                   | 278         | 298         | 320         |
| 37                         | 5.5                         | 10.0        | 11.5        | 11.6        | 222                   | 288         | 310         | 332         |
| 38                         | 4.5                         | 10.5        | 9.7         | 11.5        | 226                   | 299         | 319         | 343         |

## ตาราง ณ ปริมาณก๊าซ (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซในแต่ละวัน (ลิตร) |             |             |             | ปริมาณก๊าซสะสม (ลิตร) |             |             |             |
|----------------------------|-----------------------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                  | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) | FR 2-1 (5)            | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 39                         | 5.2                         | 10.0        | 9.5         | 10.5        | 232                   | 299         | 319         | 343         |
| 40                         | 6.0                         | 9.7         | 9.5         | 10.0        | 238                   | 308         | 329         | 353         |
| 41                         | 5.4                         | 9.2         | 10.0        | 9.3         | 243                   | 317         | 339         | 362         |
| 42                         | 5.0                         | 9.5         | 9.8         | 10.1        | 248                   | 327         | 348         | 372         |
| 43                         | 4.8                         | 9.8         | 10.0        | 9.4         | 253                   | 337         | 358         | 382         |
| 44                         | 5.0                         | 9.7         | 10.2        | 10.0        | 258                   | 346         | 369         | 392         |
| 45                         | 4.5                         | 10.5        | 11.5        | 12.4        | 263                   | 357         | 380         | 404         |
| 46                         | 4.8                         | 10.0        | 9.6         | 10.8        | 268                   | 367         | 390         | 415         |
| 47                         | 5.0                         | 9.0         | 8.5         | 10.0        | 273                   | 376         | 398         | 425         |
| 48                         | 4.3                         | 9.5         | 10.0        | 10.5        | 277                   | 385         | 408         | 436         |
| 49                         | 4.2                         | 9.3         | 9.5         | 9.8         | 281                   | 395         | 418         | 445         |
| 50                         | 4.0                         | 8.0         | 8.2         | 9.0         | 285                   | 403         | 426         | 454         |
| 51                         | 4.5                         | 9.5         | 10.5        | 11.0        | 290                   | 412         | 436         | 465         |
| 52                         | 3.8                         | 8.9         | 9.0         | 9.5         | 293                   | 421         | 445         | 475         |
| 53                         | 4.0                         | 8.0         | 8.6         | 9.0         | 297                   | 429         | 454         | 484         |
| 54                         | 3.5                         | 8.5         | 9.0         | 8.2         | 301                   | 438         | 463         | 492         |
| 55                         | 4.1                         | 7.0         | 6.5         | 6.5         | 305                   | 445         | 469         | 499         |
| 56                         | 3.7                         | 5.0         | 6.0         | 6.0         | 309                   | 450         | 475         | 505         |
| 57                         | 3.2                         | 3.5         | 4.3         | 4.0         | 312                   | 453         | 480         | 509         |
| 58                         | 2.5                         | 5.0         | 4.5         | 4.5         | 314                   | 458         | 484         | 513         |
| 59                         | 2.0                         | 3.5         | 2.6         | 2.4         | 316                   | 462         | 487         | 515         |
| 60                         | 1.2                         | 1.5         | 1.0         | 1.0         | 318                   | 463         | 488         | 516         |
| 61                         | 0.5                         | 1.0         | 1.0         | 1.0         | 318                   | 464         | 489         | 517         |
| 62                         | 0.5                         | 1.0         | 0.5         | 0.8         | 319                   | 465         | 489         | 518         |
| 63                         | 0.5                         | 0.8         | 0.5         | 0.5         | 319                   | 466         | 490         | 519         |
| 64                         | 0.5                         | 0.5         | 0.8         | 0.5         | 320                   | 466         | 491         | 519         |
| 65                         | 0.5                         | 0           | 0           | 0           | 320                   | 466         | 491         | 519         |
| 66                         | 0.5                         | 0           | 0           | 0           | 321                   | 466         | 491         | 519         |
| 67                         | 0.6                         | 0           | 0           | 0           | 321                   | 466         | 491         | 519         |
| 68                         | 0.3                         | 0           | 0           | 0           | 321                   | 466         | 491         | 519         |
| 69                         | 0                           | -           | -           | -           | 321                   | -           | -           | -           |
| 70                         | 0                           | -           | -           | -           | 321                   | -           | -           | -           |
| 71                         | 0                           | -           | -           | -           | 321                   | -           | -           | -           |
| 72                         | 0                           | -           | -           | -           | 321                   | -           | -           | -           |

## ภาคผนวก ข องค์ประกอบท้าย

ถึงปฏิกริยาข้อขสลายมูลฝอยสด

(FR 2-1, FR 2-2, FR 2-3 และ FR 2-4)



## ภาคผนวก ข ปริมาณก๊าซแต่ละชนิด

ถึงปฏิกิริยาระหว่างสลายมูลฝอยสด

(FR 2-1, FR 2-2, FR 2-3 และ FR 2-4)

ภาคผนวก ข ปริมาณก๊าซแต่ละชนิด

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซ CO <sub>2</sub> (ลิตร) |             |             |             | ปริมาณ CH <sub>4</sub> (ลิตร) |             |             |             | ปริมาณ N <sub>2</sub> (ลิตร) |             |             |             | ปริมาณ O <sub>2</sub> (ลิตร) |             |             |             |
|----------------------------|-----------------------------------|-------------|-------------|-------------|-------------------------------|-------------|-------------|-------------|------------------------------|-------------|-------------|-------------|------------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                        | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) | FR 2-1 (5)                    | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) | FR 2-1 (5)                   | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) | FR 2-1 (5)                   | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 3.54                              | 7.27        | 6.86        | 7.90        | 0.24                          | 0.51        | 0.54        | 0.65        | 5.45                         | 1.74        | 3.39        | 2.18        | 0.23                         | 0.09        | 0.35        | 0.08        |
| 5                          | 7.23                              | 11.6        | 10.9        | 14.1        | 0.48                          | 1.21        | 1.28        | 1.83        | 0.58                         | 3.98        | 5.06        | 4.49        | 0.11                         | 0.13        | 0.23        | 0.14        |
| 8                          | 4.59                              | 4.40        | 5.53        | 5.91        | 0.37                          | 0.51        | 0.77        | 1.00        | 0.41                         | 1.23        | 2.39        | 2.64        | 0.05                         | 0.04        | 0.09        | 0.04        |
| 12                         | 4.49                              | 3.75        | 3.90        | 2.63        | 0.39                          | 0.74        | 0.85        | 0.72        | 0.27                         | 1.27        | 1.46        | 1.51        | 0.04                         | 0.03        | 0.03        | 0.03        |
| 15                         | 2.51                              | 2.34        | 2.91        | 2.97        | 0.45                          | 0.58        | 0.75        | 1.10        | 0.30                         | 0.96        | 0.89        | 1.59        | 0.02                         | 0.01        | 0.02        | 0.03        |
| 19                         | 2.72                              | 3.26        | 4.07        | 2.76        | 0.52                          | 1.10        | 1.59        | 1.32        | 0.35                         | 1.01        | 1.24        | 1.45        | 0.03                         | 0.02        | 0.03        | 0.04        |
| 22                         | 4.49                              | 4.20        | 4.49        | 4.45        | 1.08                          | 1.48        | 1.67        | 2.47        | 0.76                         | 1.82        | 1.65        | 2.31        | 0.04                         | 0.04        | 0.07        | 0.07        |
| 26                         | 5.93                              | 5.50        | 4.94        | 5.09        | 1.57                          | 2.12        | 2.50        | 3.01        | 0.83                         | 1.47        | 1.88        | 2.90        | 0.03                         | 0.08        | 0.08        | 0.06        |
| 29                         | 5.97                              | 3.72        | 4.40        | 4.08        | 1.91                          | 2.56        | 3.39        | 4.60        | 1.41                         | 2.66        | 1.70        | 2.53        | 0.05                         | 0.07        | 0.08        | 0.08        |
| 33                         | 4.39                              | 3.89        | 3.64        | 3.19        | 2.04                          | 3.99        | 5.56        | 6.91        | 0.76                         | 1.37        | 0.55        | 0.92        | 0.05                         | 0.07        | 0.07        | 0.09        |
| 36                         | 2.98                              | 2.93        | 2.84        | 2.33        | 3.63                          | 7.34        | 7.71        | 8.04        | 0.23                         | 0.31        | 0.24        | 0.35        | 0.04                         | 0.07        | 0.07        | 0.09        |
| 40                         | 1.45                              | 2.16        | 1.91        | 2.15        | 3.91                          | 7.90        | 7.69        | 8.38        | 0.29                         | 0.24        | 0.43        | 0.32        | 0.05                         | 0.09        | 0.06        | 0.08        |
| 43                         | 1.12                              | 1.99        | 2.14        | 1.93        | 3.25                          | 7.66        | 8.22        | 8.06        | 0.33                         | 0.25        | 0.27        | 0.19        | 0.03                         | 0.09        | 0.08        | 0.04        |
| 47                         | 1.23                              | 1.90        | 2.20        | 2.09        | 3.49                          | 7.24        | 6.79        | 8.22        | 0.54                         | 0.20        | 0.17        | 0.16        | 0.03                         | 0.08        | 0.08        | 0.06        |
| 50                         | 1.02                              | 1.85        | 1.67        | 1.94        | 2.73                          | 5.85        | 6.34        | 7.19        | 0.34                         | 0.49        | 0.41        | 0.56        | 0.02                         | 0.04        | 0.06        | 0.07        |
| 54                         | 0.84                              | 2.22        | 2.11        | 1.66        | 2.26                          | 5.60        | 6.26        | 6.43        | 0.41                         | 1.17        | 1.05        | 0.87        | 0.03                         | 0.07        | 0.05        | 0.03        |
| 57                         | 0.77                              | 0.88        | 1.06        | 0.86        | 2.03                          | 1.92        | 2.76        | 2.78        | 0.31                         | 0.86        | 0.74        | 0.58        | 0.03                         | 0.03        | 0.02        | 0.02        |
| 61                         | 0.11                              | 0.28        | 0.26        | 0.23        | 0.26                          | 0.51        | 0.59        | 0.63        | 0.12                         | 0.23        | 0.20        | 0.20        | 0.00                         | 0.01        | 0.00        | 0.01        |
| 64                         | 0.15                              | 0.14        | 0.20        | 0.12        | 0.24                          | 0.27        | 0.47        | 0.31        | 0.14                         | 0.13        | 0.16        | 0.11        | 0.00                         | 0.00        | 0.00        | 0.00        |
| 68                         | 0.30                              | 0.00        | 0.00        | 0.00        | 0.09                          | 0.00        | 0.00        | 0.00        | 0.14                         | 0.00        | 0.00        | 0.00        | 0.09                         | 0.00        | 0.00        | 0.00        |
| 71                         | 0.00                              | -           | -           | -           | 0.00                          | -           | -           | -           | 0.00                         | -           | -           | -           | 0.00                         | -           | -           | -           |

## ภาคผนวก ฅ ปริมาณก๊าซมีเทน

ถึงปฏิกิริยาย่อยสลายมูลฝอยสด

(FR 2-1, FR 2-2, FR 2-3 และ FR 2-4)

## ตาราง ณ ปริมาณก๊าซมีเทน

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซมีเทนในแต่ละวัน (ลิตร) |             |             |             | ปริมาณก๊าซมีเทนสะสม (ลิตร) |             |             |             |
|----------------------------|----------------------------------|-------------|-------------|-------------|----------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                       | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) | FR 2-1 (5)                 | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 0.24                             | 0.51        | 0.54        | 0.65        | 0.24                       | 0.51        | 0.54        | 0.65        |
| 2                          | 0.32                             | 0.79        | 0.72        | 0.62        | 0.56                       | 1.29        | 1.26        | 1.27        |
| 3                          | 0.37                             | 0.55        | 0.59        | 0.74        | 0.93                       | 1.85        | 1.85        | 2.01        |
| 4                          | 0.45                             | 0.95        | 1.05        | 1.25        | 1.38                       | 2.80        | 2.90        | 3.26        |
| 5                          | 0.48                             | 1.21        | 1.28        | 1.83        | 1.86                       | 4.00        | 4.18        | 5.09        |
| 6                          | 0.28                             | 0.94        | 1.00        | 1.46        | 2.14                       | 4.95        | 5.18        | 6.55        |
| 7                          | 0.31                             | 0.66        | 0.82        | 1.22        | 2.45                       | 5.61        | 6.00        | 7.78        |
| 8                          | 0.37                             | 0.51        | 0.77        | 1.00        | 2.83                       | 6.12        | 6.76        | 8.77        |
| 9                          | 0.28                             | 0.67        | 0.77        | 1.00        | 3.11                       | 6.79        | 7.53        | 9.77        |
| 10                         | 0.25                             | 0.83        | 0.92        | 1.02        | 3.36                       | 7.62        | 8.45        | 10.8        |
| 11                         | 0.19                             | 0.75        | 0.72        | 0.88        | 3.55                       | 8.37        | 9.16        | 11.7        |
| 12                         | 0.39                             | 0.74        | 0.85        | 0.72        | 3.94                       | 9.11        | 10.0        | 12.4        |
| 13                         | 0.43                             | 0.56        | 0.84        | 1.17        | 4.37                       | 9.67        | 10.9        | 13.6        |
| 14                         | 0.39                             | 0.72        | 0.48        | 0.71        | 4.76                       | 10.4        | 11.3        | 14.3        |
| 15                         | 0.45                             | 0.58        | 0.75        | 1.10        | 5.21                       | 11.0        | 12.1        | 15.4        |
| 16                         | 0.39                             | 0.62        | 0.74        | 0.92        | 5.60                       | 11.6        | 12.8        | 16.3        |
| 17                         | 0.35                             | 0.59        | 0.78        | 0.85        | 5.95                       | 12.2        | 13.6        | 17.1        |
| 18                         | 0.50                             | 0.84        | 0.94        | 1.04        | 6.45                       | 13.0        | 14.5        | 18.2        |
| 19                         | 0.52                             | 1.10        | 1.59        | 1.32        | 6.96                       | 14.1        | 16.1        | 19.5        |
| 20                         | 0.64                             | 1.22        | 1.39        | 1.73        | 7.60                       | 15.3        | 17.5        | 21.2        |
| 21                         | 0.62                             | 0.87        | 1.23        | 1.58        | 8.22                       | 16.2        | 18.7        | 22.8        |
| 22                         | 1.08                             | 1.48        | 1.67        | 2.47        | 9.30                       | 17.7        | 20.4        | 25.3        |
| 23                         | 1.05                             | 1.58        | 1.75        | 2.34        | 10.3                       | 19.3        | 22.2        | 27.6        |
| 24                         | 1.32                             | 2.23        | 2.38        | 2.52        | 11.7                       | 21.5        | 24.5        | 30.1        |
| 25                         | 1.72                             | 2.42        | 2.57        | 2.81        | 13.4                       | 23.9        | 27.1        | 32.9        |
| 26                         | 1.57                             | 2.12        | 2.50        | 3.01        | 15.0                       | 26.0        | 29.6        | 36.0        |
| 27                         | 1.46                             | 2.22        | 2.66        | 3.18        | 16.4                       | 28.2        | 32.3        | 39.1        |
| 28                         | 1.44                             | 2.10        | 2.76        | 3.92        | 17.9                       | 30.4        | 35.0        | 43.1        |
| 29                         | 1.91                             | 2.56        | 3.39        | 4.60        | 19.8                       | 32.9        | 38.4        | 47.7        |
| 30                         | 1.97                             | 3.11        | 3.43        | 4.88        | 21.7                       | 36.0        | 41.9        | 52.5        |
| 31                         | 1.49                             | 3.31        | 4.15        | 5.57        | 23.2                       | 39.3        | 46.0        | 58.1        |
| 32                         | 1.24                             | 3.52        | 4.95        | 5.90        | 24.5                       | 42.9        | 50.9        | 64.0        |
| 33                         | 2.04                             | 3.99        | 5.56        | 6.91        | 26.5                       | 46.8        | 56.5        | 70.9        |
| 34                         | 2.88                             | 4.40        | 6.19        | 7.10        | 29.4                       | 51.2        | 62.7        | 78.0        |
| 35                         | 3.29                             | 6.18        | 6.48        | 7.12        | 32.7                       | 57.4        | 69.2        | 85.1        |
| 36                         | 3.63                             | 7.34        | 7.71        | 8.04        | 36.3                       | 64.8        | 76.9        | 93.2        |
| 37                         | 3.03                             | 7.70        | 8.98        | 9.28        | 39.4                       | 72.5        | 85.9        | 102.5       |
| 38                         | 2.63                             | 8.14        | 7.66        | 9.37        | 42.0                       | 80.6        | 93.5        | 111.8       |

ตาราง ณ ปริมาณก๊าซมีเทน (ต่อ)

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณก๊าซมีเทนในแต่ละวัน (ลิตร) |             |             |             | ปริมาณก๊าซมีเทนสะสม (ลิตร) |             |             |             |
|----------------------------|----------------------------------|-------------|-------------|-------------|----------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                       | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) | FR 2-1 (5)                 | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 39                         | 3.17                             | 8.02        | 7.60        | 8.66        | 45.2                       | 88.6        | 101         | 120         |
| 40                         | 3.91                             | 7.90        | 7.69        | 8.38        | 49.1                       | 96.5        | 109         | 129         |
| 41                         | 3.55                             | 7.37        | 8.15        | 7.81        | 52.6                       | 104         | 117         | 137         |
| 42                         | 3.35                             | 7.50        | 8.04        | 8.60        | 56.0                       | 111         | 125         | 145         |
| 43                         | 3.25                             | 7.66        | 8.22        | 8.06        | 59.2                       | 119         | 133         | 153         |
| 44                         | 3.40                             | 7.61        | 8.36        | 8.50        | 62.6                       | 127         | 142         | 162         |
| 45                         | 3.06                             | 8.33        | 9.32        | 10.40       | 65.7                       | 135         | 151         | 172         |
| 46                         | 3.31                             | 8.00        | 7.76        | 8.96        | 69.0                       | 143         | 159         | 181         |
| 47                         | 3.49                             | 7.24        | 6.79        | 8.22        | 72.5                       | 150         | 165         | 189         |
| 48                         | 2.93                             | 7.43        | 7.89        | 8.59        | 75.4                       | 158         | 173         | 198         |
| 49                         | 2.85                             | 7.06        | 7.40        | 7.93        | 78.3                       | 165         | 181         | 206         |
| 50                         | 2.73                             | 5.85        | 6.34        | 7.19        | 81.0                       | 171         | 187         | 213         |
| 51                         | 2.99                             | 6.79        | 7.93        | 8.75        | 84.0                       | 177         | 195         | 222         |
| 52                         | 2.49                             | 6.16        | 6.57        | 7.51        | 86.5                       | 183         | 202         | 229         |
| 53                         | 2.59                             | 5.47        | 6.18        | 7.10        | 89.1                       | 189         | 208         | 236         |
| 54                         | 2.26                             | 5.60        | 6.26        | 6.43        | 91.3                       | 195         | 214         | 243         |
| 55                         | 2.58                             | 4.38        | 4.41        | 4.84        | 93.9                       | 199         | 218         | 248         |
| 56                         | 2.31                             | 2.91        | 3.96        | 4.64        | 96.2                       | 202         | 222         | 252         |
| 57                         | 2.03                             | 1.92        | 2.76        | 2.78        | 98.2                       | 204         | 225         | 255         |
| 58                         | 1.53                             | 2.70        | 2.84        | 3.05        | 99.8                       | 206         | 228         | 258         |
| 59                         | 1.16                             | 1.87        | 1.60        | 1.59        | 101                        | 208         | 230         | 260         |
| 60                         | 0.66                             | 0.79        | 0.61        | 0.65        | 102                        | 209         | 230         | 260         |
| 61                         | 0.26                             | 0.51        | 0.59        | 0.63        | 102                        | 210         | 231         | 261         |
| 62                         | 0.25                             | 0.53        | 0.30        | 0.50        | 102                        | 210         | 231         | 262         |
| 63                         | 0.24                             | 0.42        | 0.30        | 0.31        | 102                        | 211         | 231         | 262         |
| 64                         | 0.24                             | 0.27        | 0.47        | 0.31        | 103                        | 211         | 232         | 262         |
| 65                         | 0.23                             | 0.00        | 0.00        | 0.00        | 103                        | 211         | 232         | 262         |
| 66                         | 0.23                             | 0.00        | 0.00        | 0.00        | 103                        | 211         | 232         | 262         |
| 67                         | 0.27                             | 0.00        | 0.00        | 0.00        | 103                        | 211         | 232         | 262         |
| 68                         | 0.14                             | 0.00        | 0.00        | 0.00        | 103                        | 211         | 232         | 262         |
| 69                         | 0.00                             | 0.00        | 0.00        | 0.00        | 103                        | 211         | 232         | 262         |
| 70                         | 0.00                             | 0.00        | 0.00        | 0.00        | 103                        | 211         | 232         | 262         |
| 71                         | 0.00                             | 0.00        | 0.00        | 0.00        | 103                        | 211         | 232         | 262         |

## ภาคผนวก ญ ลักษณะน้ำชะมูลฝอย

ถึงปฏิบัติการย่อยสลายมูลฝอยสด  
(FR 2-1, FR 2-2, FR 2-3 และ FR 2-4)

ตาราง ณ. 1 พีเอช

| ระยะเวลา<br>การทดลอง (วัน) | ค่า pH ในน้ำชะมูลฝอยของถังจำลองที่ |             |             |             |
|----------------------------|------------------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                         | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 4.61                               | 4.73        | 4.50        | 4.38        |
| 5                          | 4.79                               | 4.85        | 5.24        | 4.60        |
| 8                          | 5.12                               | 5.30        | 6.01        | 4.84        |
| 12                         | 5.23                               | 5.53        | 6.53        | 5.47        |
| 15                         | 5.98                               | 6.40        | 6.41        | 6.11        |
| 19                         | 6.09                               | 6.15        | 6.18        | 6.02        |
| 22                         | 6.14                               | 6.19        | 6.23        | 6.41        |
| 26                         | 6.50                               | 6.67        | 6.53        | 6.84        |
| 29                         | 6.73                               | 6.94        | 7.21        | 7.93        |
| 33                         | 7.31                               | 7.52        | 7.59        | 7.61        |
| 36                         | 7.58                               | 7.81        | 7.78        | 8.03        |
| 40                         | 7.87                               | 7.52        | 7.57        | 7.81        |
| 43                         | 8.10                               | 7.79        | 7.92        | 7.88        |
| 47                         | 7.69                               | 7.95        | 7.58        | 7.83        |
| 50                         | 7.96                               | 7.82        | 7.60        | 7.80        |
| 54                         | 7.92                               | 7.88        | 7.79        | 7.79        |
| 57                         | 8.03                               | 8.34        | 7.89        | 7.91        |
| 61                         | 8.08                               | 7.69        | 7.81        | 7.99        |
| 64                         | 7.79                               | 8.04        | 8.06        | 8.12        |
| 68                         | 7.86                               | 8.01        | 7.91        | 7.93        |
| 71                         | 7.95                               | 8.02        | 8.15        | 8.17        |
| 75                         | 7.98                               | -           | -           | -           |
| 78                         | 8.01                               | -           | -           | -           |

ตาราง ญ.2 ความเป็นด่าง

| ระยะเวลา<br>การทดลอง (วัน) | ความเป็นด่าง (มก./ล CaCO <sub>3</sub> ) |             |             |             |
|----------------------------|-----------------------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                              | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 1390                                    | 1130        | 2000        | 1130        |
| 5                          | 2430                                    | 1960        | 3340        | 2130        |
| 8                          | 3910                                    | 3910        | 5820        | 3300        |
| 12                         | 4440                                    | 4470        | 8300        | 5820        |
| 15                         | 5750                                    | 5950        | 9240        | 9200        |
| 19                         | 6620                                    | 6990        | 11500       | 9070        |
| 22                         | 9240                                    | 7200        | 9550        | 8770        |
| 26                         | 10300                                   | 6860        | 10600       | 9160        |
| 29                         | 10700                                   | 6210        | 10200       | 8250        |
| 33                         | 10900                                   | 6730        | 8600        | 7860        |
| 36                         | 10500                                   | 6730        | 8250        | 9110        |
| 40                         | 10800                                   | 7240        | 9490        | 8430        |
| 43                         | 9050                                    | 6880        | 10000       | 8760        |
| 47                         | 8770                                    | 8180        | 10900       | 9070        |
| 50                         | 8300                                    | 9040        | 11700       | 10200       |
| 54                         | 9890                                    | 9460        | 11000       | 9240        |
| 57                         | 8740                                    | 9460        | 11600       | 10100       |
| 61                         | 8340                                    | 8000        | 9320        | 83600       |
| 64                         | 8170                                    | 8870        | 8090        | 8360        |
| 68                         | 8600                                    | 9270        | 10000       | 9820        |
| 71                         | 7700                                    | 9180        | 8270        | 9000        |
| 75                         | 8860                                    | -           | -           | -           |
| 78                         | 8470                                    | -           | -           | -           |

ตาราง ญ.3 ความเป็นกรดระเหย

| ระยะเวลา<br>การทดลอง (วัน) | ความเป็นกรดระเหย (มก./ล CaCO <sub>3</sub> ) |             |             |             |
|----------------------------|---------------------------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                                  | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 2210                                        | 2370        | 2310        | 2130        |
| 5                          | 2150                                        | 3570        | 6890        | 5090        |
| 8                          | 5640                                        | 5070        | 6300        | 5830        |
| 12                         | 5910                                        | 4770        | 5860        | 6770        |
| 15                         | 6470                                        | 4380        | 7600        | 8540        |
| 19                         | 5320                                        | 6000        | 7040        | 8240        |
| 22                         | 5500                                        | 4630        | 6150        | 6790        |
| 26                         | 4710                                        | 3760        | 5020        | 4750        |
| 29                         | 6110                                        | 4180        | 3350        | 2660        |
| 33                         | 4260                                        | 3000        | 2770        | 2630        |
| 36                         | 5590                                        | 2760        | 2870        | 2990        |
| 40                         | 2330                                        | 2560        | 2530        | 1780        |
| 43                         | 1320                                        | 2380        | 3030        | 2340        |
| 47                         | 1420                                        | 2150        | 2100        | 1530        |
| 50                         | 833                                         | 1220        | 1390        | 769         |
| 54                         | 558                                         | 692         | 859         | 487         |
| 57                         | 372                                         | 295         | 410         | 269         |
| 61                         | 308                                         | 192         | 167         | 205         |
| 64                         | 269                                         | 205         | 192         | 186         |
| 68                         | 199                                         | 179         | 212         | 199         |
| 71                         | 217                                         | 199         | 218         | 205         |
| 75                         | 231                                         | -           | -           | -           |
| 78                         | 218                                         | -           | -           | -           |

ตาราง ญ. 4 ซีโอดี

| ระยะเวลา<br>การทดลอง (วัน) | ซีโอดี (มก./ล) |             |             |             |
|----------------------------|----------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)     | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 23900          | 24200       | 25100       | 22000       |
| 5                          | 20900          | 20900       | 20200       | 30800       |
| 8                          | 18800          | 18500       | 20900       | 27500       |
| 12                         | 19800          | 22200       | 26600       | 27800       |
| 15                         | 20500          | 25100       | 22900       | 20400       |
| 19                         | 18300          | 18900       | 17000       | 22700       |
| 22                         | 16300          | 16500       | 20300       | 23700       |
| 26                         | 19400          | 20300       | 19900       | 18900       |
| 29                         | 19200          | 18400       | 17200       | 12900       |
| 33                         | 19900          | 13000       | 12500       | 11100       |
| 36                         | 15000          | 12500       | 10300       | 9550        |
| 40                         | 10400          | 11400       | 11000       | 7950        |
| 43                         | 7960           | 8530        | 8720        | 6330        |
| 47                         | 7780           | 7110        | 7500        | 5940        |
| 50                         | 5860           | 5500        | 5170        | 4490        |
| 54                         | 4700           | 3290        | 3260        | 3150        |
| 57                         | 3810           | 2220        | 2080        | 1989        |
| 61                         | 4060           | 2810        | 2230        | 2180        |
| 64                         | 3800           | 2850        | 2390        | 2070        |
| 68                         | 3780           | 2690        | 2470        | 2240        |
| 71                         | 3610           | 2800        | 2360        | 2340        |
| 75                         | 3370           | -           | -           | -           |
| 78                         | 3420           | -           | -           | -           |

ตาราง ณ. 5 บีโอดี

| ระยะเวลา<br>การทดลอง (วัน) | บีโอดี (มก./ล) |             |             |             |
|----------------------------|----------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)     | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 20073          | 19100       | 21000       | 17900       |
| 8                          | 15200          | 14800       | 17900       | 22900       |
| 15                         | 14533          | 16700       | 14200       | 14800       |
| 22                         | 10900          | 10200       | 13000       | 15400       |
| 29                         | 11100          | 12700       | 11200       | 7430        |
| 36                         | 7750           | 7960        | 5910        | 5780        |
| 43                         | 3880           | 4590        | 4590        | 3220        |
| 50                         | 2660           | 2700        | 2420        | 2080        |
| 57                         | 2180           | 830         | 646         | 606         |
| 64                         | 1020           | 872         | 581         | 484         |
| 71                         | 1150           | 775         | 484         | 484         |
| 78                         | 892            | -           | -           | -           |

ตาราง ณ.6 อัตราส่วนบีโอดีต่อซีโอดี

| ระยะเวลา<br>การทดลอง (วัน) | อัตราส่วนบีโอดีต่อซีโอดี |             |             |             |
|----------------------------|--------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)               | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 0.84                     | 0.79        | 0.84        | 0.81        |
| 8                          | 0.81                     | 0.80        | 0.86        | 0.83        |
| 15                         | 0.71                     | 0.67        | 0.62        | 0.73        |
| 22                         | 0.67                     | 0.62        | 0.64        | 0.65        |
| 29                         | 0.58                     | 0.69        | 0.65        | 0.58        |
| 36                         | 0.52                     | 0.64        | 0.57        | 0.61        |
| 43                         | 0.49                     | 0.54        | 0.53        | 0.51        |
| 50                         | 0.45                     | 0.49        | 0.47        | 0.46        |
| 57                         | 0.37                     | 0.37        | 0.31        | 0.30        |
| 64                         | 0.27                     | 0.31        | 0.24        | 0.23        |
| 71                         | 0.30                     | 0.28        | 0.21        | 0.21        |
| 78                         | 0.25                     | -           | -           | -           |

ตาราง ณ.7 ปริมาณเจดาล-ไนโตรเจน

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณเจดาล-ไนโตรเจน (มก./ล ) |             |             |             |
|----------------------------|-------------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                    | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 788                           | 896         | 726         | 803         |
| 15                         | 1590                          | 1590        | 1370        | 1250        |
| 29                         | 1610                          | 1330        | 1710        | 1440        |
| 43                         | 1210                          | 1060        | 1580        | 1250        |
| 57                         | 952                           | 966         | 1470        | 1130        |
| 71                         | 882                           | 809         | 795         | 822         |

ตาราง ณ. 8 ปริมาณแอมโมเนีย-ไนโตรเจน

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณแอมโมเนีย-ไนโตรเจน (มก./ล ) |             |             |             |
|----------------------------|-----------------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                        | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 407                               | 456         | 388         | 468         |
| 15                         | 1220                              | 1210        | 1020        | 968         |
| 29                         | 1400                              | 1050        | 1490        | 1220        |
| 43                         | 1090                              | 829         | 1350        | 1130        |
| 57                         | 789                               | 776         | 1310        | 1010        |
| 71                         | 798                               | 722         | 710         | 749         |

ตาราง ณ.9 ปริมาณไนโตรเจนที่เป็นส่วนประกอบสารอินทรีย์

| ระยะเวลา<br>การทดลอง (วัน) | ปริมาณไนโตรเจนที่เป็นส่วนประกอบสารอินทรีย์ (มก./ล ) |             |             |             |
|----------------------------|-----------------------------------------------------|-------------|-------------|-------------|
|                            | FR 2-1 (5)                                          | FR 2-2 (10) | FR 2-3 (20) | FR 2-4 (30) |
| 1                          | 381                                                 | 439         | 338         | 336         |
| 15                         | 370                                                 | 380         | 350         | 282         |
| 29                         | 210                                                 | 280         | 220         | 220         |
| 43                         | 120                                                 | 231         | 230         | 120         |
| 57                         | 163                                                 | 189         | 160         | 120         |
| 71                         | 84                                                  | 88          | 85          | 73          |

## ประวัติผู้เขียน

ชื่อ นางสาวรัญญา ทิฆัมพรพิทยา

วัน เดือน ปี เกิด 9 ตุลาคม 2518

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ปีการศึกษา 2540