

**Electronic Supplementary Information**  
**for**

**A Sulfonated Schiff Base Dimethyltin(IV) Coordination Polymer: Synthesis, Characterization and Application as a Catalyst for Ultrasound- or Microwave-Assisted Baeyer-Villiger Oxidation under Solvent-free Conditions**

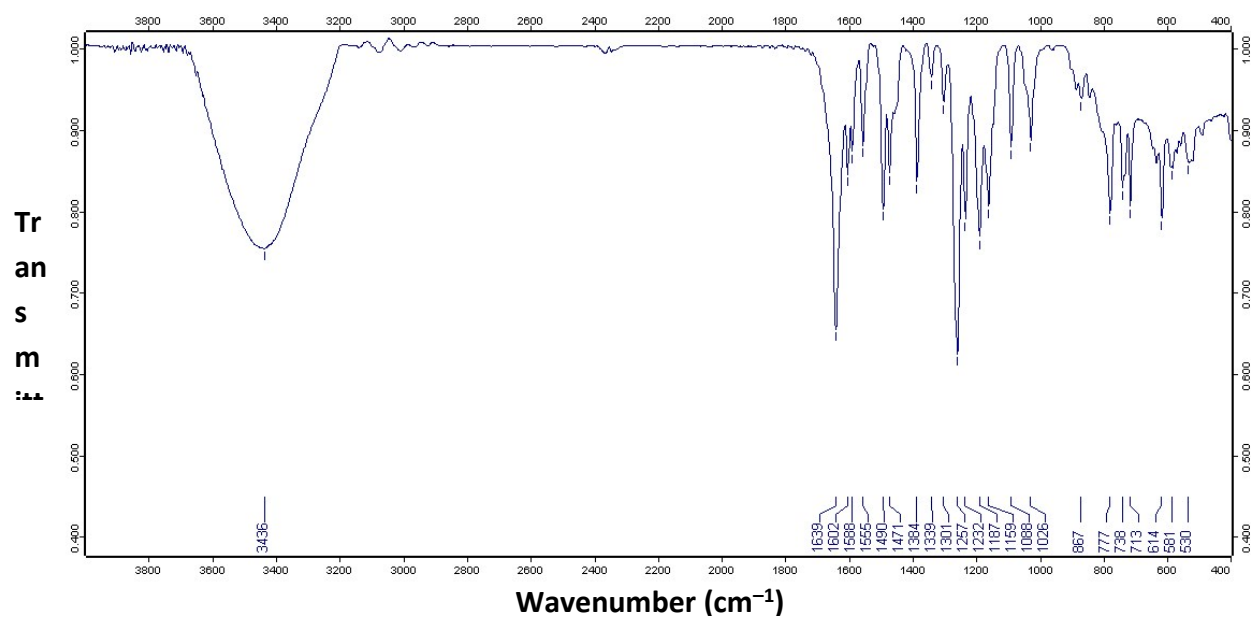
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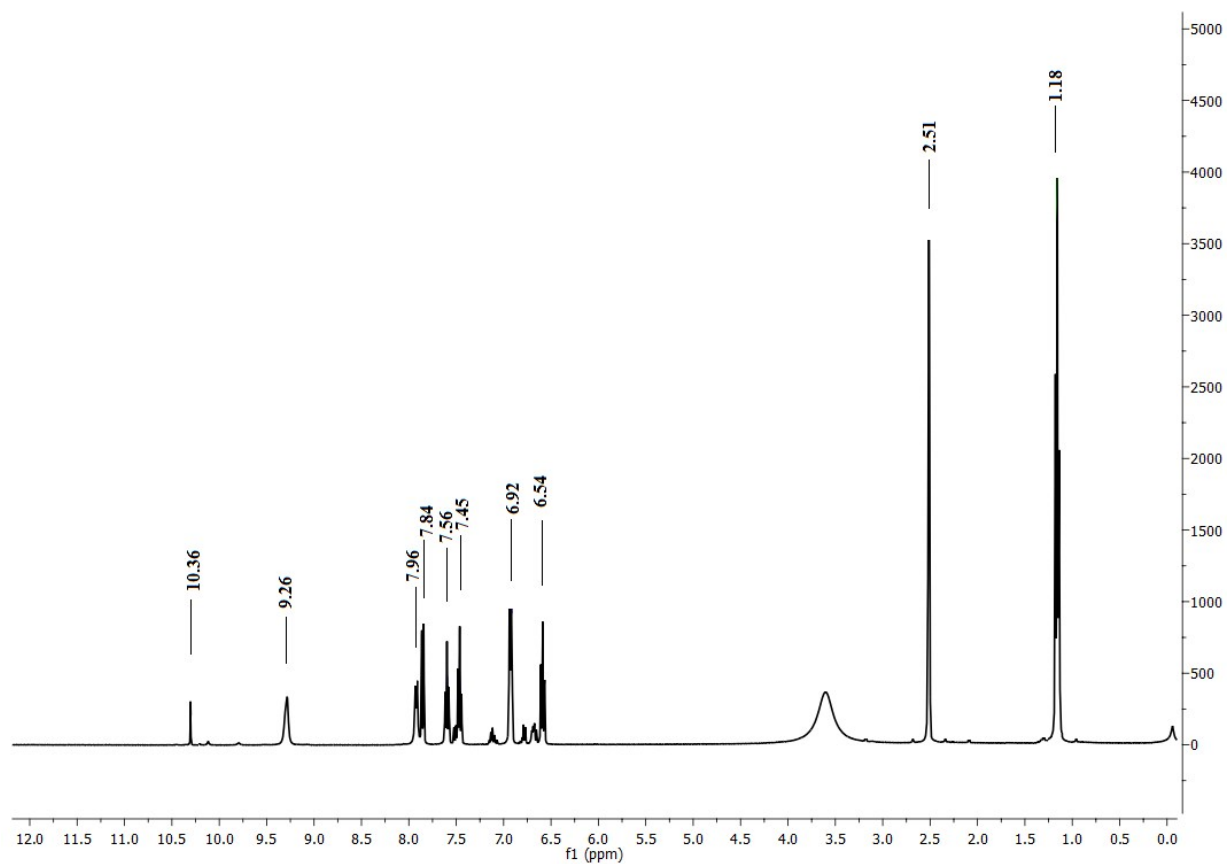
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**Table S1** Hydrogen bond geometry [ $\text{\AA}$ ,  $^\circ$ ] in **1**

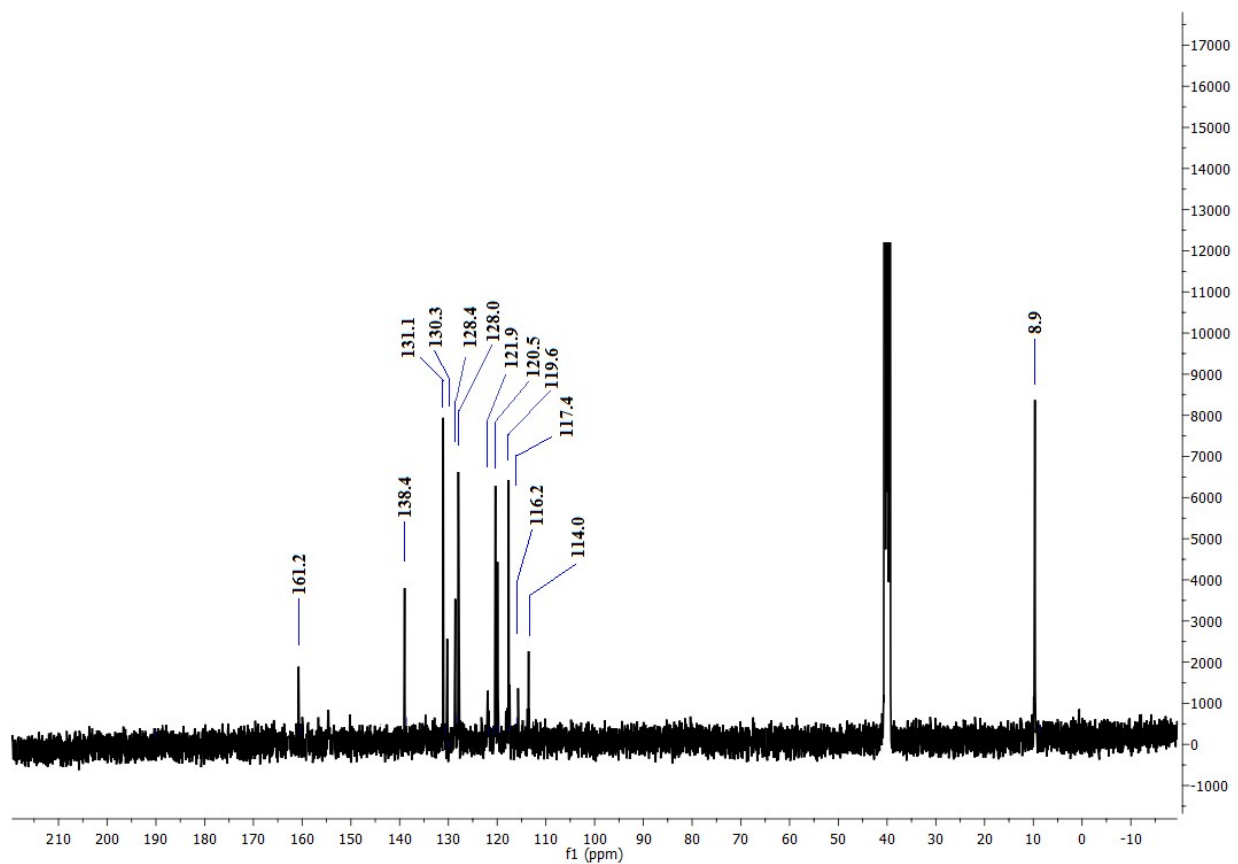
| D–H $\cdots$ A                                   | H $\cdots$ A | D $\cdots$ A | D–H $\cdots$ A | Symmetry             |
|--------------------------------------------------|--------------|--------------|----------------|----------------------|
| N1–H1N $\cdots$ O1                               | 2.01(3)      | 2.654(3)     | 132(3)         |                      |
| N1–H1N $\cdots$ O4                               | 2.59(3)      | 3.147(4)     | 125(3)         |                      |
| O6–H6E $\cdots$ O2 <sup>ii</sup>                 | 1.772(19)    | 2.620(3)     | 175(4)         | 0.5–x, –0.5+y, 0.5–z |
| C7 <sup>iii</sup> –H7 <sup>iii</sup> $\cdots$ O3 | 2.58         | 3.449(4)     | 155.2          | 1–x, 1–y, 1–z        |
| C9 <sup>iv</sup> –H9 <sup>iv</sup> $\cdots$ O3   | 2.58         | 3.334(4)     | 138.8          | x, 1–y, –0.5+z       |
| C3 <sup>v</sup> –H3 <sup>v</sup> $\cdots$ O5     | 2.52         | 3.274(4)     | 138.3          | x, –1+y, z           |



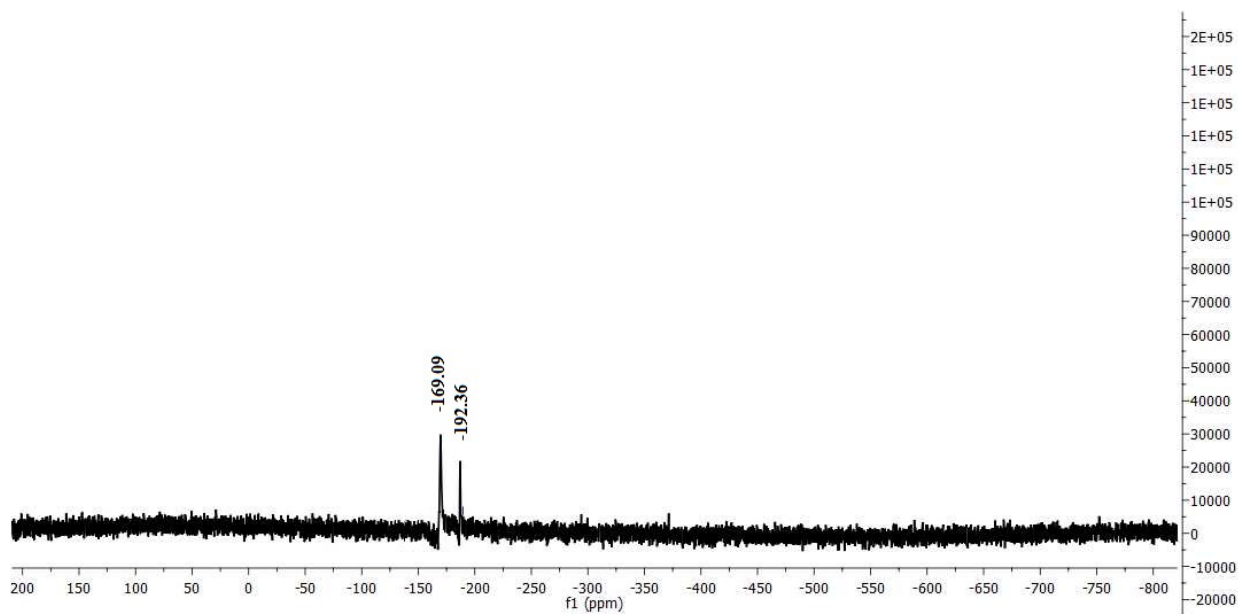
**Fig S1** FT-IR spectrum of **1** in the 4000–400  $\text{cm}^{-1}$  region.



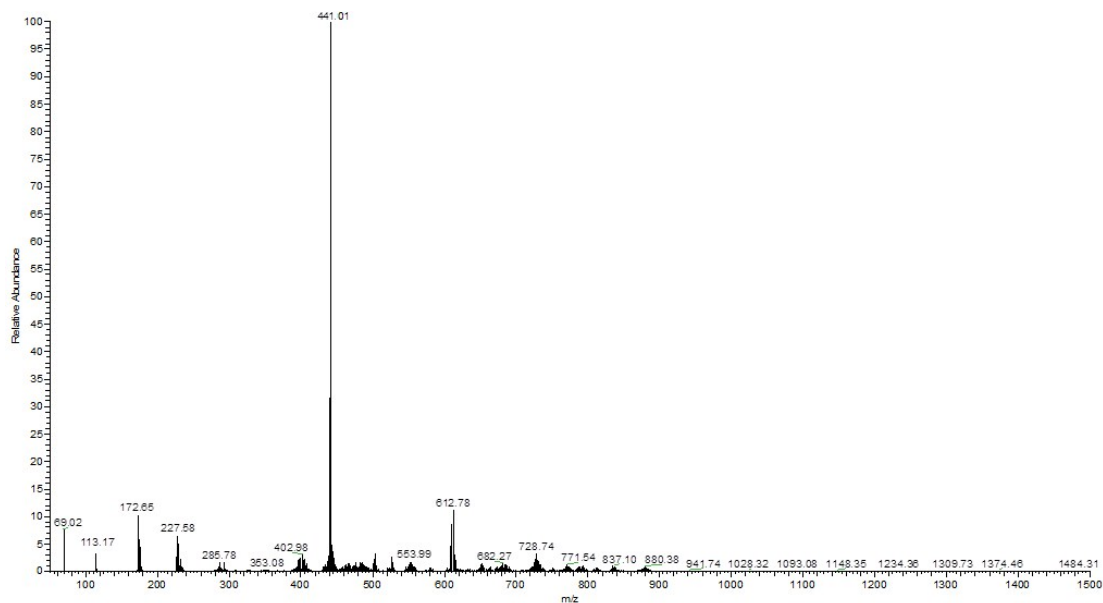
**Fig S2**  $^1\text{H}$  NMR spectrum of **1** in  $\text{DMSO}-d_6$  solution.



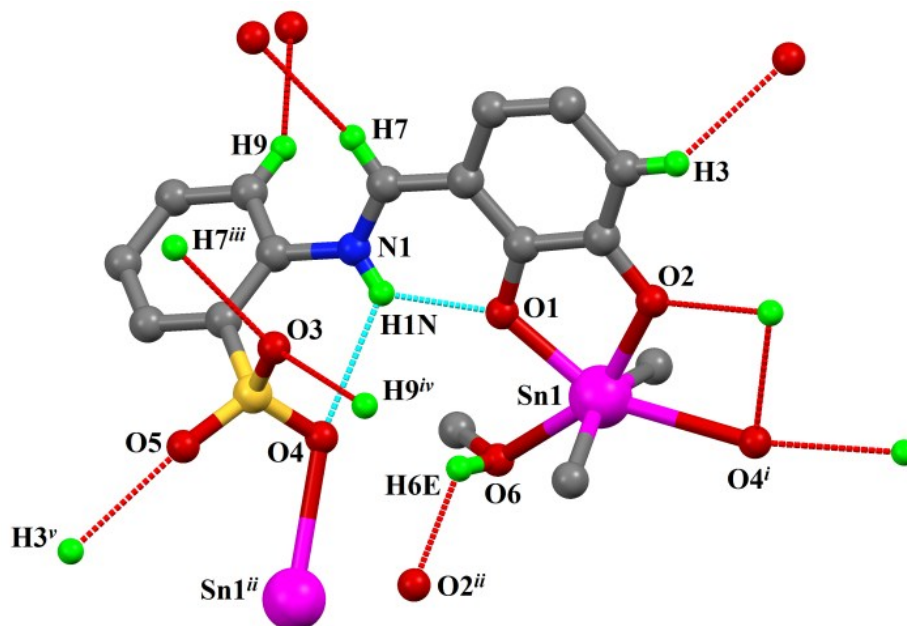
**Fig S3**  $^{13}\text{C}$  NMR spectrum of **1** in  $\text{DMSO}-d_6$  solution.



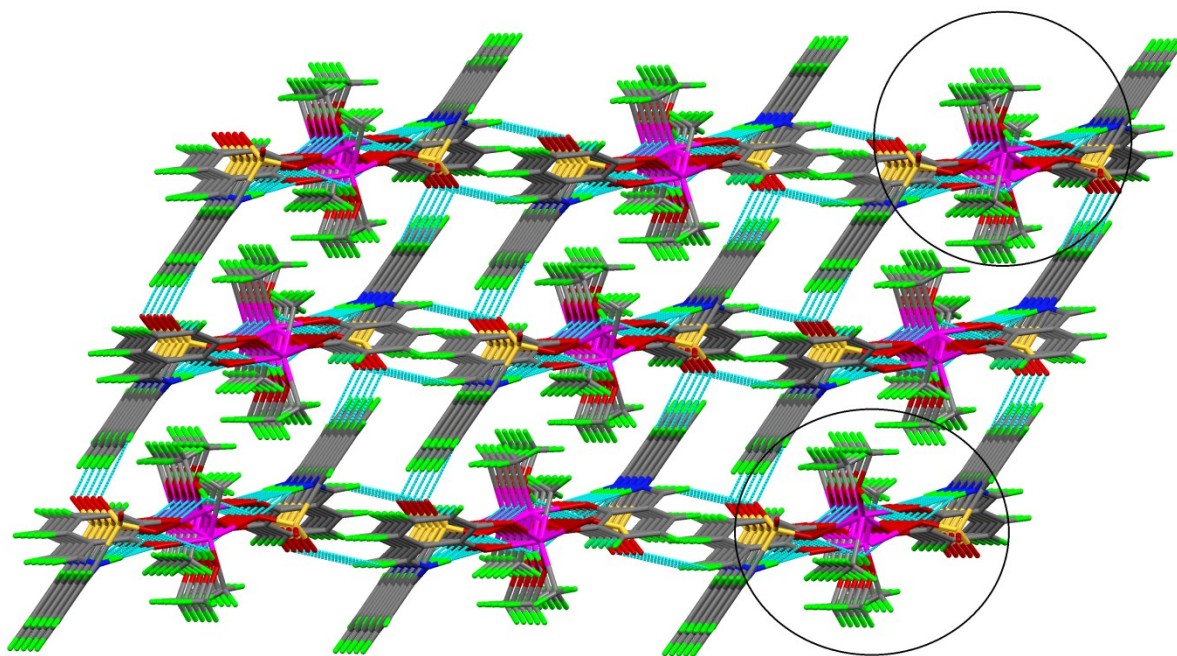
**Fig S4**  $^{119}\text{Sn}$  NMR spectrum of **1** in  $\text{DMSO}-d_6$  solution.



**Fig S5** ESI-MS spectrum ( $m/z$ , -ve mode) of **1** in DMSO+MeOH solution.

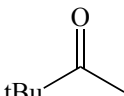
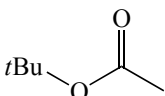


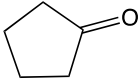
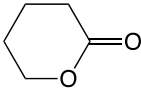
**Fig. S6** Intra- and intermolecular H-bonding interactions in the crystal structure of **1**. Symmetry: *i*)  $0.5-x, 0.5+y, 0.5-z$ ; *ii*)  $0.5-x, -0.5+y, 0.5-z$ ; *iii*)  $1-x, 1-y, 1-z$ ; *iv*)  $x, 1-y, -0.5+z$ ; *v*)  $x, -1+y, z$ .

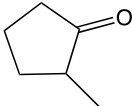
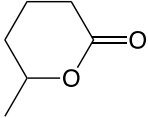


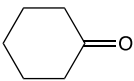
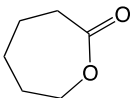
**Fig. S7** Capped stick fragment of the 3D supramolecular structure of **1** generated by weak C–H···O interactions. The circles highlight a 1D chain.

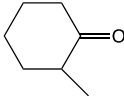
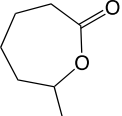
**Table S2** Reaction conditions optimization for the Baeyer-Villiger oxidation of several ketones catalyzed by **1**.<sup>a</sup>

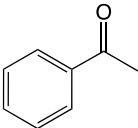
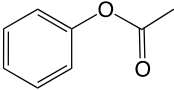
| Entry | Procedure         | Temp.<br>/ °C | t<br>/h | Ketone                                                                              | Product                                                                              | Conv. <sup>b</sup> /% | Select. <sup>c</sup> /% | TON <sup>d</sup> |
|-------|-------------------|---------------|---------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------|-------------------------|------------------|
| 1     | magnetic stirring | r.t.          | 0.5     |  |  | 2                     | 62                      | 12               |
| 2     |                   | r.t.          | 1.0     |                                                                                     |                                                                                      | 4                     | 42                      | 17               |
| 3     |                   | r.t.          | 1.5     |                                                                                     |                                                                                      | 7                     | 43                      | 30               |
| 4     |                   | 60            | 0.5     |                                                                                     |                                                                                      | 5                     | 58                      | 29               |
| 5     |                   | 60            | 1.0     |                                                                                     |                                                                                      | 9                     | 51                      | 31               |
| 6     |                   | 60            | 1.5     |                                                                                     |                                                                                      | 12                    | 49                      | 59               |
| 7     |                   | 100           | 0.5     |                                                                                     |                                                                                      | 4                     | 65                      | 26               |
| 8     |                   | 100           | 1.0     |                                                                                     |                                                                                      | 6                     | 52                      | 31               |
| 9     |                   | 100           | 1.5     |                                                                                     |                                                                                      | 7                     | 34                      | 24               |
| 10    |                   | r.t.          | 0.5     |                                                                                     |                                                                                      | 17                    | 83                      | 141              |

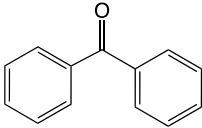
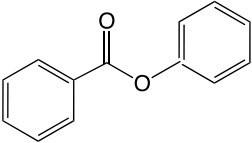
|                 |                   |      |     |                                                                                     |                                                                                      |    |    |     |
|-----------------|-------------------|------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----|----|-----|
| 11              | ultrasound        | r.t. | 1.0 |                                                                                     |                                                                                      | 30 | 80 | 240 |
| 12              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 41 | 78 | 320 |
| 13              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 49 | 98 | 480 |
| 14              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 76 | 99 | 752 |
| 15              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 80 | 99 | 792 |
| 16              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 53 | 85 | 451 |
| 17              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 70 | 89 | 623 |
| 18              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 67 | 80 | 536 |
| 19              | microwave         | 60   | 0.5 |                                                                                     |                                                                                      | 61 | 84 | 512 |
| 20              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 82 | 86 | 705 |
| 21              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 86 | 82 | 705 |
| 22              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 63 | 80 | 504 |
| 23              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 70 | 83 | 581 |
| 24              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 69 | 81 | 559 |
| 25 <sup>e</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 65 | 67 | 436 |
| 26 <sup>f</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 71 | 42 | 298 |
| 27 <sup>g</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 36 | 80 | 288 |
| 28 <sup>h</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 27 | 83 | 224 |
| 29 <sup>i</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 47 | 90 | 423 |
| 30 <sup>j</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 78 | 82 | 640 |
| 31              | magnetic stirring | r.t. | 0.5 |  |  | 6  | 73 | 44  |
| 32              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 10 | 67 | 67  |
| 33              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 13 | 64 | 83  |
| 34              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 27 | 58 | 157 |
| 35              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 39 | 54 | 221 |
| 36              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 41 | 53 | 217 |
| 37              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 24 | 60 | 144 |
| 38              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 34 | 52 | 177 |
| 39              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 32 | 54 | 173 |

|                 |                   |      |     |                                                                                     |                                                                                      |    |     |     |
|-----------------|-------------------|------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----|-----|-----|
| 40              | ultrasound        | r.t. | 0.5 |                                                                                     |                                                                                      | 33 | 77  | 254 |
| 41              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 54 | 72  | 389 |
| 42              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 64 | 74  | 474 |
| 43              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 85 | 99  | 842 |
| 44              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 98 | 100 | 980 |
| 45              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 98 | 99  | 970 |
| 46              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 67 | 98  | 657 |
| 47              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 87 | 98  | 853 |
| 48              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 81 | 96  | 778 |
| 49 <sup>e</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 83 | 40  | 332 |
| 50 <sup>f</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 71 | 64  | 454 |
| 51 <sup>g</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 69 | 81  | 559 |
| 52 <sup>h</sup> | microwave         | 60   | 1.0 |                                                                                     |                                                                                      | 37 | 93  | 344 |
| 53 <sup>i</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 59 | 87  | 513 |
| 54 <sup>j</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 74 | 84  | 622 |
| 55              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 76 | 99  | 752 |
| 56              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 93 | 98  | 911 |
| 57              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 94 | 100 | 940 |
| 58              | magnetic stirring | 100  | 0.5 |                                                                                     |                                                                                      | 71 | 88  | 625 |
| 59              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 81 | 90  | 729 |
| 60              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 79 | 91  | 719 |
| 61              | magnetic stirring | r.t. | 0.5 |  |  | 7  | 61  | 43  |
| 62              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 13 | 55  | 72  |
| 63              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 17 | 53  | 90  |
| 64              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 14 | 71  | 99  |
| 65              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 22 | 67  | 147 |
| 66              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 24 | 64  | 154 |
| 67              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 15 | 59  | 89  |
| 68              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 19 | 63  | 120 |
| 69              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 18 | 65  | 117 |

|                 |                   |      |     |                                                                                     |                                                                                      |    |     |     |
|-----------------|-------------------|------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----|-----|-----|
| 70              | ultrasound        | r.t. | 0.5 |                                                                                     |                                                                                      | 31 | 86  | 267 |
| 71              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 51 | 84  | 428 |
| 72              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 59 | 90  | 531 |
| 73              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 78 | 97  | 757 |
| 74              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 93 | 100 | 930 |
| 75              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 94 | 99  | 931 |
| 76              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 60 | 100 | 600 |
| 77              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 79 | 98  | 774 |
| 78              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 74 | 97  | 718 |
| 79 <sup>e</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 81 | 39  | 316 |
| 80 <sup>f</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 73 | 56  | 409 |
| 81 <sup>g</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 57 | 78  | 445 |
| 82 <sup>h</sup> | microwave         | 60   | 1.0 |                                                                                     |                                                                                      | 33 | 84  | 277 |
| 83 <sup>i</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 49 | 91  | 446 |
| 84 <sup>j</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 76 | 84  | 638 |
| 85              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 71 | 92  | 653 |
| 86              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 89 | 86  | 765 |
| 87              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 91 | 86  | 783 |
| 88              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 63 | 90  | 567 |
| 89              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 76 | 90  | 684 |
| 90              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 73 | 84  | 613 |
| 91              | magnetic stirring | r.t. | 0.5 |  |  | 3  | 67  | 20  |
| 92              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 9  | 71  | 64  |
| 93              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 13 | 62  | 81  |
| 94              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 23 | 55  | 127 |
| 95              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 37 | 53  | 196 |
| 96              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 41 | 56  | 230 |
| 97              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 21 | 66  | 139 |
| 98              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 31 | 61  | 189 |
| 99              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 35 | 59  | 207 |

|                  |                   |      |     |                                                                                     |                                                                                      |    |     |     |
|------------------|-------------------|------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----|-----|-----|
| 100              | ultrasound        | r.t. | 0.5 |                                                                                     |                                                                                      | 43 | 91  | 391 |
| 101              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 58 | 88  | 510 |
| 102              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 67 | 87  | 583 |
| 103              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 70 | 95  | 665 |
| 104              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 91 | 100 | 910 |
| 105              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 90 | 98  | 882 |
| 106              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 54 | 86  | 464 |
| 107              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 73 | 83  | 606 |
| 108              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 73 | 80  | 584 |
| 109 <sup>e</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 82 | 42  | 344 |
| 110 <sup>f</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 44 | 62  | 273 |
| 111 <sup>g</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 59 | 86  | 507 |
| 112 <sup>h</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 36 | 78  | 281 |
| 113 <sup>i</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 48 | 90  | 432 |
| 114 <sup>j</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 53 | 88  | 466 |
| 115              | microwave         | 60   | 0.5 |                                                                                     |                                                                                      | 82 | 93  | 763 |
| 116              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 94 | 92  | 865 |
| 117              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 95 | 97  | 922 |
| 118              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 74 | 88  | 651 |
| 119              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 83 | 91  | 755 |
| 120              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 82 | 85  | 697 |
| 121              | magnetic stirring | r.t. | 0.5 |  |  | 3  | 71  | 21  |
| 122              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 11 | 67  | 73  |
| 123              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 16 | 50  | 80  |
| 124              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 31 | 68  | 211 |
| 125              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 43 | 55  | 237 |
| 126              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 46 | 58  | 267 |
| 127              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 29 | 63  | 183 |
| 128              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 36 | 61  | 220 |
| 129              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 36 | 60  | 216 |

|                  |                   |      |     |                                                                                     |                                                                                      |    |     |     |
|------------------|-------------------|------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----|-----|-----|
| 130              | ultrasound        | r.t. | 0.5 |                                                                                     |                                                                                      | 40 | 99  | 396 |
| 131              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 57 | 98  | 559 |
| 132              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 63 | 97  | 611 |
| 133              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 67 | 99  | 663 |
| 134              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 83 | 100 | 830 |
| 135              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 85 | 98  | 833 |
| 136              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 48 | 93  | 446 |
| 137              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 67 | 95  | 637 |
| 138              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 66 | 91  | 601 |
| 139              | microwave         | 60   | 0.5 |                                                                                     |                                                                                      | 75 | 83  | 623 |
| 140              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 90 | 77  | 693 |
| 141              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 93 | 80  | 744 |
| 142              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 61 | 88  | 537 |
| 143              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 72 | 76  | 547 |
| 144              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 74 | 71  | 525 |
| 145 <sup>e</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 81 | 43  | 348 |
| 146 <sup>f</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 73 | 60  | 438 |
| 147 <sup>g</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 51 | 85  | 434 |
| 148 <sup>h</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 47 | 77  | 362 |
| 149 <sup>i</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 39 | 91  | 355 |
| 150 <sup>j</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 44 | 83  | 365 |
| 151              | magnetic stirring | r.t. | 0.5 |  |  | 2  | 67  | 13  |
| 152              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 7  | 72  | 50  |
| 153              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 13 | 70  | 91  |
| 154              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 17 | 73  | 124 |
| 155              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 23 | 67  | 154 |
| 156              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 26 | 71  | 185 |
| 157              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 11 | 55  | 61  |
| 158              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 19 | 49  | 93  |
| 159              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 23 | 42  | 97  |

|                  |                   |      |     |                                                                                     |                                                                                      |    |    |     |
|------------------|-------------------|------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----|----|-----|
| 160              | ultrasound        | r.t. | 0.5 |                                                                                     |                                                                                      | 44 | 90 | 396 |
| 161              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 63 | 89 | 561 |
| 162              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 69 | 87 | 600 |
| 163              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 72 | 99 | 713 |
| 164              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 87 | 93 | 809 |
| 165              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 87 | 91 | 792 |
| 166              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 58 | 85 | 493 |
| 167              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 72 | 84 | 605 |
| 168              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 70 | 86 | 602 |
| 169 <sup>e</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 65 | 40 | 260 |
| 170 <sup>f</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 60 | 47 | 282 |
| 171 <sup>g</sup> | microwave         | 60   | 1.0 |                                                                                     |                                                                                      | 47 | 71 | 334 |
| 172 <sup>h</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 32 | 88 | 219 |
| 173 <sup>i</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 39 | 92 | 359 |
| 174 <sup>j</sup> |                   | 60   | 1.0 |                                                                                     |                                                                                      | 74 | 85 | 629 |
| 175              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 64 | 91 | 582 |
| 176              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 81 | 88 | 723 |
| 177              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 83 | 86 | 714 |
| 178              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 58 | 83 | 418 |
| 179              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 67 | 87 | 583 |
| 180              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 66 | 77 | 508 |
| 181              | magnetic stirring | r.t. | 0.5 |  |  | 0  | -  | -   |
| 182              |                   | r.t. | 1.0 |                                                                                     |                                                                                      | 3  | 89 | 27  |
| 183              |                   | r.t. | 1.5 |                                                                                     |                                                                                      | 8  | 75 | 60  |
| 184              |                   | 60   | 0.5 |                                                                                     |                                                                                      | 7  | 80 | 56  |
| 185              |                   | 60   | 1.0 |                                                                                     |                                                                                      | 12 | 86 | 103 |
| 186              |                   | 60   | 1.5 |                                                                                     |                                                                                      | 17 | 74 | 126 |
| 187              |                   | 100  | 0.5 |                                                                                     |                                                                                      | 10 | 67 | 67  |
| 188              |                   | 100  | 1.0 |                                                                                     |                                                                                      | 15 | 54 | 81  |
| 189              |                   | 100  | 1.5 |                                                                                     |                                                                                      | 19 | 58 | 110 |

|                  |            |      |     |  |  |    |    |     |
|------------------|------------|------|-----|--|--|----|----|-----|
| 190              | ultrasound | r.t. | 0.5 |  |  | 42 | 95 | 399 |
| 191              |            | r.t. | 1.0 |  |  | 54 | 91 | 491 |
| 192              |            | r.t. | 1.5 |  |  | 60 | 89 | 534 |
| 193              |            | 60   | 0.5 |  |  | 53 | 88 | 466 |
| 194              |            | 60   | 1.0 |  |  | 62 | 87 | 593 |
| 195              |            | 60   | 1.5 |  |  | 65 | 88 | 572 |
| 196              |            | 100  | 0.5 |  |  | 37 | 90 | 333 |
| 197              |            | 100  | 1.0 |  |  | 49 | 89 | 436 |
| 198              |            | 100  | 1.5 |  |  | 48 | 86 | 413 |
| 199              | microwave  | 60   | 0.5 |  |  | 55 | 83 | 457 |
| 200              |            | 60   | 1.0 |  |  | 68 | 79 | 537 |
| 201              |            | 60   | 1.5 |  |  | 71 | 77 | 547 |
| 202              |            | 100  | 0.5 |  |  | 56 | 81 | 454 |
| 203              |            | 100  | 1.0 |  |  | 69 | 75 | 518 |
| 204              |            | 100  | 1.5 |  |  | 67 | 72 | 482 |
| 205 <sup>e</sup> |            | 60   | 1.0 |  |  | 72 | 39 | 281 |
| 206 <sup>f</sup> |            | 60   | 1.0 |  |  | 61 | 55 | 336 |
| 207 <sup>g</sup> |            | 60   | 1.0 |  |  | 29 | 80 | 232 |
| 208 <sup>h</sup> |            | 60   | 1.0 |  |  | 37 | 85 | 315 |
| 209 <sup>i</sup> |            | 60   | 1.0 |  |  | 28 | 87 | 244 |
| 210 <sup>j</sup> |            | 60   | 1.0 |  |  | 52 | 92 | 478 |

<sup>a</sup> Reaction conditions (unless stated otherwise): **1** (2.0  $\mu$ mol), 2.0 mmol of ketone, H<sub>2</sub>O<sub>2</sub> (2.0 mmol). Yield and TON determined by GC analysis. <sup>b</sup> Moles of converted (reacted) substrate per mole of substrate. <sup>c</sup> Moles of lactone (or ester) per mole of converted substrate. <sup>d</sup> Turnover number (moles of product per mol of **1**). <sup>e</sup> H<sub>2</sub>O<sub>2</sub> (4.0 mmol). <sup>f</sup> TBHP (2.0 mmol). <sup>g</sup> in DCE. <sup>h</sup> in H<sub>2</sub>O. <sup>i</sup> **1** (1.0  $\mu$ mol). <sup>j</sup> **1** (5.0  $\mu$ mol).