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**Supporting Information** 

## Near-Instantaneous Synthesis of Pyrrole-Appended Isocorroles

Simon Larsen,<sup>a</sup> Laura J. M<sup>c</sup>Cormick,<sup>b</sup> and Abhik Ghosh,\*,<sup>a</sup>

 <sup>a</sup> Department of Chemistry, UiT – The Arctic University of Norway, 9037 Tromsø, Norway;
E-mail: <u>abhik.ghosh@uit.no</u> (AG)
<sup>b</sup>Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA 94720-8229, USA

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## A.<sup>1</sup>H NMR spectra



Figure S1. <sup>1</sup>H NMR spectrum of 5,10,15-Tris(4-methoxyphenyl)-5-(2-pyrrolyl)isocorrole.



Figure S2. <sup>1</sup>H NMR spectrum of 5,10,15-Tris(4-methoxyphenyl)-5-(2-pyrrolyl)isocorrole, aromatic region expanded.



Figure S3. <sup>1</sup>H NMR spectrum of 5,10,15-Tris(4-methoxyphenyl)-10-(2-pyrrolyl)isocorrole.



Figure S4. <sup>1</sup>H NMR spectrum of 5,10,15-Tris(4-methoxyphenyl)-10-(2-pyrrolyl)isocorrole, aromatic region expanded.



Figure S5. <sup>1</sup>H NMR spectrum of 5,10,15-Tris(4-methylphenyl)-5-(2-pyrrolyl)isocorrole.



Figure S6. <sup>1</sup>H NMR spectrum of 5,10,15-Tris(4-methylphenyl)-5-(2-pyrrolyl)isocorrole, aromatic region expanded.



Figure S7. <sup>1</sup>H NMR spectrum of 5,10,15-Tris(4-methylphenyl)-10-(2-pyrrolyl)isocorrole.



Figure S8. <sup>1</sup>H NMR spectrum of 5,10,15-Tris(4-methylphenyl)-10-(2-pyrrolyl)isocorrole, aromatic region expanded.



Figure S9. <sup>1</sup>H NMR spectrum of 5,10,15-triphenyl-5-(2-pyrrolyl)isocorrole.



Figure S10. <sup>1</sup>H NMR spectrum of 5,10,15-triphenyl-5-(2-pyrrolyl)isocorrole, aromatic region expanded.



Figure S11. <sup>1</sup>H NMR spectrum of 5,10,15-triphenyl-10-(2-pyrrolyl)isocorrole.



Figure S12. <sup>1</sup>H NMR spectrum of 5,10,15-triphenyl-10-(2-pyrrolyl)isocorrole, aromatic region expanded.



Figure S13. <sup>1</sup>H NMR spectrum of 5,10,15-Tris[(4-trifluoromethyl)phenyl]-5-(2-pyrrolyl)isocorrole.



Figure S14. <sup>1</sup>H NMR spectrum of 5,10,15-Tris[(4-trifluoromethyl)phenyl]-5-(2-pyrrolyl)isocorrole, aromatic region expanded.



Figure S15. <sup>1</sup>H NMR spectrum of 5,10,15-Tris[(4-trifluoromethyl)phenyl]-10-(2-pyrrolyl)isocorrole.



Figure S16. <sup>1</sup>H NMR spectrum of 5,10,15-Tris[(4-trifluoromethyl)phenyl]-10-(2-pyrrolyl)isocorrole, aromatic region expanded.

## B. ESI MS spectra



Figure S17. ESI-MS spectrum of 5,10,15-Tris(4-methoxyphenyl)-5-(2-pyrrolyl)isocorrole.



Figure S18. ESI-MS spectrum of 5,10,15-Tris(4-methoxyphenyl)-10-(2-pyrrolyl)isocorrole.



Figure S19. ESI-MS spectrum of 5,10,15-Tris(4-methylphenyl)-5-(2-pyrrolyl)isocorrole.



Figure S20. ESI-MS spectrum of 5,10,15-Tris(4-methylphenyl)-10-(2-pyrrolyl)isocorrole.



Figure S21. ESI-MS spectrum of 5,10,15-triphenyl-5-(2-pyrrolyl)isocorrole.



Figure S22. ESI-MS spectrum of 5,10,15-triphenyl-10-(2-pyrrolyl)isocorrole.



Figure S23. ESI-MS spectrum of 5,10,15-Tris[(4-trifluoromethyl)phenyl]-5-(2-pyrrolyl)isocorrole.



Figure S24. ESI-MS spectrum of 5,10,15-Tris[(4-trifluoromethyl)phenyl]-10-(2-pyrrolyl)isocorrole.



Figure S25. ESI-MS spectrum of Cu[5,10,15-Tris(4-methoxyphenyl)-5-(2-pyrrolyl)isocorrole].



Figure S26. ESI-MS spectrum of Cu[5,10,15-Tris(4-methoxyphenyl)-10-(2-pyrrolyl)isocorrole].



Figure S27. ESI-MS spectrum of Cu[5,10,15-Tris(4-methylphenyl)-5-(2-pyrrolyl)isocorrole].



Figure S28. ESI-MS spectrum of Cu[5,10,15-Tris(4-methylphenyl)-10-(2-pyrrolyl)isocorrole].



Figure S29. ESI-MS spectrum of Cu[5,10,15-triphenyl-5-(2-pyrrolyl)isocorrole].



Figure S30. ESI-MS spectrum of Cu[5,10,15-triphenyl-10-(2-pyrrolyl)isocorrole].



Figure S31. ESI-MS spectrum of Cu[5,10,15-Tris[(4-trifluoromethyl)phenyl]-5-(2-pyrrolyl)isocorrole].



Figure S32. ESI-MS spectrum of Cu[5,10,15-Tris[(4-trifluoromethyl)phenyl]-10-(2-pyrrolyl)isocorrole].

## C. Elemental analysis

| 180 Atlantic B     | Ivd. Suite M       |       | Con                           | npany/School University                | y of Tromso  |  |
|--------------------|--------------------|-------|-------------------------------|--|--|--|
| Norcross, GA 30071 |                    |       | Dept. Department of Chemistry |  |  |  |
| ww.atianticin      | crolab.com         |       | City. State.                  | Zip 9019 Tromsø, No                    | prway  |  |
| rofessor/Super     | visor: Abhik Ghosh |       | Na                            | me Simon Larsen                        | Date 09/13/2017  |  |
| 'O# / CC#          | 80000 95.          | 00    | Pho                           | one                                    |  |  |
| Element            | Theory             | Fo    | ound                          | Single 🗙                               | Duplicate  |  |
| С                  | 77.51              | 77.45 |                               | Elements C, H,<br>Present:             | N, O   |  |
| Н                  | 5.17               | 5.25  |                               | Analyze<br>for: C, H, N                |  |  |
| N                  | 10.27              | 10.09 |                               | Hygroscopic<br>M.P<br>To be dried: Yes | Explosive<br>B.P<br>X No   |  |
|                    |                    |       |                               | Temp. <u>100C</u><br>Rush Service      | Vac. <u>1mbar</u> Time <u>24h</u><br>Rush service guarantees analyses will be<br>completed and results available by 5 PM EST |  |
|                    |                    |       |                               | Include Email Ad                       | dress or FAX # Below   |  |
|                    |                    | ····· |                               | simon.                                 | larsen@uit.no  |  |

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Figure S33. Elemental analysis of 5,10,15-Tris(4-methoxyphenyl)-5-(2-pyrrolyl)isocorrole.

| Sample No. Me<br>6180 Atlantic B<br>Norcross, GA 3<br>www.atlanticmi<br>Professor/Super | At<br>pyrrole Isocor<br>lvd. Suite M<br>30071<br>icrolab.com<br>visor: Abhik Gho |              | City, State, Zip,<br>Microla<br>Compar<br>Dept.<br>Address<br>City, State, Zip,<br>Name<br>Phone | hy/School University of Tromso<br>Department of Chemistry<br>Hansine hansens veg 18<br>9019 Tromsø, Norway<br>Simon Larsen Date 09/13/2017  |
|---|--|--------------|--|---|
| Element   | Theory   | Fou          | und  | Single X Duplicate  |
| C   | 83.38  | 82.59        | 82.68  | Elements C, H, N<br>Present:  |
| Н   | 5.57   | 5.86         | 5.79   | for: C, H, N  |
| N   | 11.05  | 10.60        | 10.59  |   |
|   | 1  | NO CHARGE FO | R DUPLICATES   | Temp. 100C Vac. Imbar Time 24h<br>Rush Service Rush service guarantees analyses with the<br>completed and results available by 5 PM EST<br>on the day the sample is received by 11 AM.<br>Include Email Address or FAX # Below<br>simon larsen/@uit no. |
| Date Received   | SEP  | 25 2017      | Date Con   | npletedSEP 2.6 2017   |
| nemarks:  |  |              |  |   |

Figure S34. Elemental analysis of 5,10,15-Tris(4-methylphenyl)-5-(2-pyrrolyl)isocorrole.

| Sample No. H p           | pyrrole Isocor     |                                | Corr         | pany/School University of Tr   | omso   |  |  |
|--------------------------|--------------------|--------------------------------|--------------|--|--|--|--|
| 6180 Atlantic B          | Ivd. Suite M       |                                | De           | Dept. Department of Chemistry  |  |  |  |
| www.atlanticmicrolab.com |                    | Address Hansine hansens veg 18 |              |  |  |  |  |
|                          |                    |                                | City, State, | Zip 9019 Tromsø, Norway  | ·····  |  |  |
| Professor/Super          | visor: Abhik Ghosh | )                              | Na           | meSimon Larsen   | Date 09/13/201   |  |  |
| PO#/CC#                  | 80000 950          | ° <i>0</i>                     | Pho          | ne   |  |  |  |
| Element                  | Theory             | Fo                             | und          | Single 🔀 Du  | plicate  |  |  |
| С                        | 83.22              | 82.60                          |              | Elements C, H, N<br>Present:   |  |  |  |
| H                        | 4.94               | 5.41                           |              | for: C, H, N   |  |  |  |
| Ν                        | 11.84              | 11.15                          |              | Hygroscopic Explo<br>M.P.<br>To be dried: Yes X No<br>Temp 100C Vac 1m | )sive<br>_ B.P<br>)<br>bar Time 24h  |  |  |
|                          |                    |                                |              | Rush Service Rush service  | e guarantees analyses will be<br>ind results available by 5 PM EST<br>he sample is received by 11 AM |  |  |
|                          |                    |                                |              | Include Email Address  | or FAX # Below   |  |  |
|                          |                    |                                |              | simon.larser   | 1@uit.no   |  |  |
| Date Received            | SEF 2              | 5 2017                         | Date 0       | Completed SEP 2  | 6 2017   |  |  |

Figure S35. Elemental analysis of 5,10,15-triphenyl-5-(2-pyrrolyl)isocorrole.

| 6180 Atlanti<br>Norcross, G<br>www.atlanti<br>Professor/Su<br>PO# / CC# | c Blvd. Suite M<br>A 30071<br>cmicrolab.com<br>upervisor: Abhik Gho<br>ろっっつっら | sh<br>00 | Com<br>Deg<br>Addre:<br>City, State, Z<br>Nan<br>Phoi | pany/School University<br>pt. Department of Che<br>ss Hansine hansens v<br>Zip 9019 Tromsø, Nor<br>ne Simon Larsen<br>ne | of Tromso<br>emistry<br>veg 18<br>way<br>Date 09/13/2017  |
|---|---|----------|---|--|---|
| Element   | Theory  | Fo       | ound  | Single X   | Duplicate   |
| C   | 66.42   | 66.62    |   | Present: C, H, F   | , N   |
| H   | 3.29  | 342      |   | for: C, H, N   |   |
| N   | 8.80  | 869      |   | Hygroscopic<br>M.P.<br>To be dried: Yes<br>Temp 100C Va  | Explosive<br>B.P<br>No<br>1mbarime24h   |
| I<br>I<br>1   | 5   |          |   | Rush Service Rush  | ish service guaranlees analyses will be<br>impleted and results available by 5 PM EST<br>i the day the sample is received by 11 AM. |
|   |   |          |   | Include Email Add<br>simon.la  | Iress or FAX # Below<br>arsen@uit.no  |
| Date Recei<br>Remarks:  | ved <u>SEP</u>  | 25 2017  | Date C  | completed <u>SEP</u>   | 26 2017   |

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Figure S36. Elemental analysis of 5,10,15-Tris[(4-trifluoromethyl)phenyl]-5-(2-pyrrolyl)isocorrole.

| Sample No  | I MEO Pyrrole Iso        | cor          | Compar            | nv/School University of Tromso  |  |  |
|--|--------------------------|--------------|-------------------|---|--|--|
| 6180 Atlantic Blvd. Suite M<br>Norcross GA 30071 Dept. |                          |              |                   | Department of Chemistry   |  |  |
| www.atlanticmicrolab.com Address                       |                          |              |                   | Hansine hansens veg 18  |  |  |
|  |                          |              | City, State, Zip. | 9019 Tromsø, Norway   |  |  |
| Professor/Supe   | rvisor: <u>Abhik Gho</u> | sh           | Name              | Simon Larsen Date 09/13/2   |  |  |
| °O# / CC#  | <u> 80000 9</u>          | Soo          | Phone             |   |  |  |
| Element  | Theory                   | Fou          | und               | Single 🛛 Duplicate 🗌  |  |  |
| С  | 71.10                    | 71.19        | 71.03             | Elements<br>Present:  |  |  |
| H  | 4.47                     | 4.70         | 4.80              | Analyze<br>for: C, H, N   |  |  |
| N  | 9.42                     | 9.03         | 9.04              | Hygroscopic Explosive   |  |  |
|  | 0.12                     |              |                   | To be dried: Yes X No Temp. 100C Vac. 1mbar Time 24h  |  |  |
|  |                          | NO CHARGE FO | R DUPLICATES      | Rush Service Rush service guarantees analyses will<br>completed and results available by 5 Ph |  |  |
|  |                          |              |                   | Include Email Address or FAX # Below  |  |  |
|  |                          |              |                   | simon.larsen@uit.no   |  |  |
| Date Received  | SEI                      | 25 2017      | Date Con          | SEF 2.6 2017  |  |  |

Figure S37. Elemental analysis of Cu[5,10,15-Tris(4-methoxyphenyl)-5-(2pyrrolyl)isocorrole].

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| Norcross, GA 30                             |                | Compai<br>Dept. | ny/School University of T<br>Department of Chemis<br>Hansine hansens veg | romso<br>try<br>18   |   |
|---|----------------|-----------------|--|--|---|
| www.atlanticmici                            | rolad.com      |                 | City, State, Zip   | 9019 Tromsø, Norway  |   |
| Professor/Supervi<br>PO# / CC# <u>80001</u> | sor: Abhik Gho | sh              | Name<br>Phone  | Simon Larsen   | _ Date <u>02/02/2018</u> _  |
| Element                                     | Theory         | Fou             | Ind  | Single X Di  | .plicate  |
| с   | 61.65          | 61.04           | 61.17  | Present: C, H, F, N,   | Cu  |
| Н   | 2.82           | 3.16            | 3.06   | for: C, H, N   |   |
| N   | 8.17           | 7.71            | 7.70   | M,P<br>To be dried: Yes X N                                  | osive [_]<br>B.P<br>o [_]   |
|   |                | NO CHARGE FO    | R DUPLICATES   | Temp. <u>100C Vac</u> , <u>1n</u><br>Rush Service Rush servi | <u>1bar Time</u> 24h<br>to guarantees analyses will be<br>and results available by 5 PM EST |
|   |                |                 |  | Include Email Address  | the sample is received by 11 AM.<br>or FAX # Below  |
|   |                |                 |  | simon.larsei   | n@uit.no  |

Figure S38. Elemental analysis of Cu[5,10,15-Tris[(4-trifluoromethyl)phenyl]-5-(2pyrrolyl)isocorrole].

| r: Abhik Gho | sh  | Address<br>City, State, Zip<br>Name   | Hansine hansens veg 18<br>9019 Tromsø, Norway<br>Simon Larsen Date 02/02/2018   |
|--------------|---|---|---|
| 124          |   | Phone_  |   |
| ſheory       | Fou   | ınd   | Single X Duplicate  |
| 75.38        | 75.44   | 75.59   | Present:<br>Analyze   |
| 4.17         | 4.57  | 4.48  | for: C, H, N<br>Hvaroscopic Explosive   |
| 10.72        | 10.25   | 10.12   | M.P B.P<br>To be dried: Yes X No  |
|              | NO CHARGE FO                                  | R DUPLICATES  | Temp. <u>100C Vac, 1mbar Time 24h</u><br>Rush Service Rush service guarantees analyses will be<br>completed and results available by 5 PM EST   |
|              |   |   | Include Email Address or FAX # Below  |
|              |   |   | simon.larsen@uit.no   |
|              | 24<br><b>'heory</b><br>75.38<br>4.17<br>10.72 | Ability     Four       24     Four       75.38     75.44       4.17     4.57       10.72     10.25       NO CHARGE FC | Abrik Gridsit     Name.       24     Phone.       'heory     Found       75.38     75.44     75.59       4.17     4.57     4.48       10.72     10.25     10.12       NO CHARGE PC R DUPLICATES     10.12 |

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Figure S39. Elemental analysis of Cu[5,10,15-triphenyl-5-(2-pyrrolyl)isocorrole].

| Professor/Super<br>Professor/Super | visor: <u>Abhik Ghc</u><br>017424 | sh           | Dept.<br>Address<br>City, State, Zip<br>Name<br>Phone | Department of C<br>Hansine hansens<br>9019 Tromsø, No<br>Simon Larsen | hemistry<br>s veg 18<br>prway<br>Date 02/02/201  |
|------------------------------------|-----------------------------------|--------------|---|---|--|
| Element                            | Theory                            | Foi          | und   | Single X  | Duplicate  |
| С                                  | 76.00                             | 75.41        | 75.38   | Present: C, H,  | N, Cu  |
| H,                                 | 4.78                              | 5.06         | 4.98  | for: C, H, N  |  |
| N                                  | 10.07                             | 9.61         | 9.63  | M.P B.P<br>To be dried: Yes X No                                      | B.P  |
|                                    | 3                                 | NO CHARGE FC | R DUPLICATES  | Temp. 100C<br>Rush Service  | Vac, 1mbar Time 24h<br>Rush service guarantees analyses will be<br>completed and results available by 5 PM EST<br>on the day the sample is received by 11 AM.<br>ddress or FAX # Below |
|                                    |                                   |              |   | simon   | .larsen@uit.no   |

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Figure S40. Elemental analysis of Cu[5,10,15-Tris(4-methylphenyl)-5-(2-pyrrolyl)isocorrole].