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General Experimental Procedures

Syntheses
Routine solvent evaporations were performed on a Büchi Rotavapor R-205 rotary evaporator with a Büchi V-500 vacuum pump.

NMR spectroscopy
$^1$H NMR spectra were recorded on a Varian Mercury Plus 400 FT-NMR spectrometer operating at 399.7491 MHz or a Varian INOVA 500 FT-NMR spectrometer operating at 499.7733 MHz.

$^{13}$C NMR spectra were recorded on a Varian Mercury Plus 400 FT-NMR spectrometer operating at 100.5169 MHz or a Varian INOVA 500 FT-NMR spectrometer operating at 125.6680 MHz.

Chromatography
Silica Gel (230-400 mesh) was obtained from Natland Internation Corporation. Preparatory thin layer chromatography plates (20 cm² x 1000 µm) were obtained from Analtech, Inc.
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Broad H2O in CDCl3 at 1.5 ppm
CHCl3 in CDCl3 at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Broad H₂O in CDCl₃ at 1.5 ppm
CHCl₃ in CDCl₃ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

[Chemical structure image]
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Broad H$_2$O in CDCl$_3$ at 1.5 ppm
Acetic acid in CDCl$_3$ at 2.1 ppm
CHCl$_3$ in CDCl$_3$ at 7.26 ppm
Reaction run in glacial acetic acid
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
H$_2$O in CDCl$_3$ at 1.5 ppm
CHCl$_3$ in CDCl$_3$ at 7.26 ppm

S13
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

+/- 4 $\xrightarrow{D_2O}$

S15
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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Broad H₂O in CDCl₃ at 1.5 ppm
Acetic acid in CDCl₃ at 2.1 ppm
CHCl₃ in CDCl₃ at 7.26 ppm
Reaction run in acetic acid
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

\[ \text{6a} + \text{6b} \]

\[ \begin{array}{c}
\text{6a} \\
\text{6b}
\end{array} \]

[Chemical structure diagrams and an NMR spectrum graph]
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

6a

6b

S19
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Broad \( \text{H}_2\text{O} \) in \( \text{CDCl}_3 \) at 1.6 ppm
Acetic acid in \( \text{CDCl}_3 \) at 2.1 ppm
Acetic anhydride in \( \text{CDCl}_3 \) at 2.22 ppm
CHCl\(_3\) in \( \text{CDCl}_3 \) at 7.26 ppm
Product recrystallized from acetic acid/acetic anhydride
SUPPLEMENTAL:  4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

S25
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Ethanol/H$_2$O in CDCl$_3$ at 1.23 (CH$_3$), 3.72 (CH$_2$), 1.59 (OH) ppm
Ethanol used as recrystallization solvent
CHCl$_3$ in CDCl$_3$ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

S27

[Chemical structure image]

+/- 9

[Graph image]
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

[Chemical structure image]

$^1$H NMR (400 MHz, CDCl₃) δ (ppm): 

$+/- 9$
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James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
H₂O in CDCl₃ at 1.5 ppm
Acetone in CDCl₃ at 2.17 ppm
CHCl₃ in CDCl₃ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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Supplemental: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Silicone grease (Polydimethylsiloxane) at 0.07 ppm
Acetic acid in CDC$_3$ at 2.1 ppm
CHCl$_3$ in CDCl$_3$ at 7.26 ppm
Reaction run in acetic acid
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

12a

12b

S33
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller

12a + 12b

S34
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Silicone grease (Polydimethylsiloxane) at 0.07 ppm
Hydrocarbon grease peaks at 0.86 and 1.26 ppm
H₂O in CDCl₃ at 1.58 ppm
CHCl₃ in CDCl₃ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

\[
\begin{align*}
14a & + 14b \\
\text{TMS at 0.0 ppm} & \\
\text{Silicone grease (Polydimethylsiloxane) at 0.07 ppm} & \\
\text{H}_2\text{O in CDCl}_3 & \text{at 1.58 ppm} \\
\text{Acetone in CDCl}_3 & \text{at 2.17 ppm} \\
\text{CHCl}_3 & \text{in CDCl}_3 \text{ at 7.26 ppm}
\end{align*}
\]
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
TMS at 0.0 ppm
Silicone grease (Polydimethylsiloxane) at 0.07 ppm
Hydrocarbon grease peaks at 0.86 and 1.26 ppm
$\text{H}_2\text{O}$ in CDCl$_3$ at 1.57 ppm
CHCl$_3$ in CDCl$_3$ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

![Chemical Structure Image]

16b

TMS at 0.0 ppm
H$_2$O in CDCl$_3$ at 1.5 ppm
CHCl$_3$ in CDCl$_3$ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Silicone grease (Polydimethylsiloxane) at 0.07 ppm
Hydrocarbon grease peaks at 0.86 and 1.26 ppm
H₂O in CDCl₃ at 1.55 ppm
CHCl₃ in CDCl₃ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Silicone grease (Polydimethylsiloxane) at 0.07 ppm
Hydrocarbon grease peaks at 0.86 and 1.26 ppm
H₂O in CDCl₃ at 1.55 ppm
CHCl₃ in CDCl₃ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

18b
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

[Graph showing NMR spectra labeled 18b and D2O]
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller

18b
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
H₂O in CDCl₃ at 1.5 ppm
CHCl₃ in CDCl₃ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Silicone grease (Polydimethylsiloxane) at 0.07 ppm
Hydrocarbon grease peaks at 0.86 and 1.26 ppm
H₂O in CDCl₃ at 1.58 ppm
CHCl₃ in CDCl₃ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes
James Eric Rainbolt and Glen P. Miller*

TMS at 0.0 ppm
Hydrocarbon grease peaks in CS$_2$ at 0.86 and 1.26 ppm
Acetone in CDCl$_3$/CS$_2$ at 2.15
CHCl$_3$ in CDCl$_3$ at 7.26 ppm
SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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SUPPLEMENTAL: 4,7-Diphenylisobenzofuran: A Useful Intermediate for the Construction of Phenyl-Substituted Acenes

James Eric Rainbolt and Glen P. Miller*

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S62