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Recently phenylene-imine based molecules have been studied for their potential use as molecular wires due to a low decay constant and ease of synthesis. Previous research in our lab has shown that diruthenium paddlewheel complexes with poly-yne wires, which also exhibit very low decay constants, are ideal for use in this area of chemistry. The first generation of the diruthenium phenylene-imine wires have been prepared by Schiff base condensation of complexes **1a** ( $\text{Ru}_2(\text{ap})_4\text{-}p\text{-CC-Ph-NH}_2$ , ap = 2-anilinopyridinate) or **1b** ( $\text{Ru}_2(\text{ap})_4\text{-}m\text{-CC-Ph-NH}_2$ ) with terephthalaldehyde in the presence of an acid catalyst. In addition, these wires have been end capped with benzaldehyde and 4-bromobenzaldehyde, which demonstrates the flexibility of this method. Infrared spectroscopy confirmed a successful condensation reaction by the presence of a C=N peak near  $1620\text{ cm}^{-1}$ , as well as the lack of an amino peak near  $3200\text{ cm}^{-1}$ . Crystal structures of imine products based on **1a** reveal an out-of-plane twist of the phenylene groups of roughly 40 degrees, revealing the possibility of the twist interrupting the molecular conjugation in longer wires.