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<table>
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<tr>
<th>complex</th>
<th>(\lambda_{\text{abs}}(\log \varepsilon)) [nm]</th>
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<tbody>
<tr>
<td>Ir(ppy)\textsubscript{2}(L1)</td>
<td>261 (5.08), 341 (4.34), 407 (3.91), 459 (3.74)</td>
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<tr>
<td>Ir(ppy)\textsubscript{2}(L2)</td>
<td>261 (5.12), 341 (4.32), 407 (3.95), 459 (3.78)</td>
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Figure S1. $^1$H NMR spectra of Ir(ppy)$_2$(L1) (CDCl$_3$) in different temperature.

Figure S2. TEM image of Ir(ppy)$_2$(L1)-PNPs.
**Figure S3.** Size distribution of Ir(ppy)$_2$(L1)-PNPs.

**Figure S4.** Z scans of Ir(ppy)$_2$(L1)-PNPs.

**Scheme S1.** Schematic representation of possible transition mechanism of Ir(ppy)$_2$(L1) in solid-state.
**Movie 1.** The KB cells were incubated with Ir(ppy)$_2$(L1)-PNPs in RPMI 1640 for 8 min at 25 °C. Luminescence images of living KB cells are shown in the movie, which suggest that Ir(ppy)$_2$(L1)-PNPs were internalized into the cells and exclusively stained the cytoplasm rather than merely staining the membrane surface and nucleus.

**Movie 1 (separate) is viewable using the free web browser plug-in Chime. For more information go to the Author Guidelines section of the RSC web site.**