Supplementary information:
Influence of the amorphous phase and preceding solution processing on the eutectic behaviour in the state diagram of P3HT:PC$_{61}$BM determined by rapid heat-cool calorimetry


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Figure S1: Thermograms of the stirred P3HT-2:PC_{61}BM mixtures. The vertical dashed line represents the onset of the melting peaks close to the eutectic. The wt% of PC_{61}BM is indicated on the right side of the graph. The curves are shifted vertically for clarity.

Figure S2: State diagram of stirred P3HT-2:PC_{61}BM mixtures. The vertical dashed lines represent the composition range of the eutectic. The horizontal dashed line in the state diagram represents the onset of melting around the eutectic composition.
Figure S3: Thermograms of the stirred P3HT-3:PC$_{61}$BM mixtures. The vertical dashed line represents the onset of the melting peaks close to the eutectic. The wt% of PC$_{61}$BM is indicated on the right side of the graph. The curves are shifted vertically for clarity.

Figure S4: State diagram of stirred P3HT-3:PC$_{61}$BM mixtures. The vertical dashed lines represent the composition range of the eutectic. The horizontal dashed line in the state diagram represents the onset of melting around the eutectic composition.
Figure S5: Thermograms of the sonicated P3HT-1:PC$_{61}$BM mixtures. The vertical dashed line represents the onset of the melting peaks close to the eutectic. The wt% of PC$_{61}$BM is indicated on the right side of the graph. The curves are shifted vertically for clarity.

Figure S6: State diagram of sonicated P3HT-1:PC$_{61}$BM mixtures. The vertical dashed lines represent the composition range of the eutectic. The horizontal dashed line in the state diagram represents the onset of melting around the eutectic composition.
Figure S7: Thermograms of the sonicated P3HT-2:PC_{61}BM mixtures. The vertical dashed line represents the onset of the melting peaks close to the eutectic. The wt% of PC_{61}BM is indicated on the right side of the graph. The curves are shifted vertically for clarity.

Figure S8: State diagram of sonicated P3HT-2:PC_{61}BM mixtures. The vertical dashed lines represent the composition range of the eutectic. The horizontal dashed line in the state diagram represents the onset of melting around the eutectic composition.
Figure S9: Thermograms of the sonicated P3HT-3:PC$_{61}$BM mixtures. The vertical dashed line represents the onset of the melting peaks close to the eutectic. The wt% of PC$_{61}$BM is indicated on the right side of the graph. The curves are shifted vertically for clarity.

Figure S10: State diagram of sonicated P3HT-3:PC$_{61}$BM mixtures. The vertical dashed lines represent the composition range of the eutectic. The horizontal dashed line in the state diagram represents the onset of melting around the eutectic composition.
Figure S11: Thermogram of pure virgin PC$_{61}$BM powder obtained at 500 K.min$^{-1}$ after cooling at 500 K.min$^{-1}$. The glass transition is situated at 139 °C.

Figure S12: Thermograms of the not actively mixed P3HT-2:PC$_{61}$BM mixtures. The vertical dashed line represents the onset of the melting peaks close to the eutectic. The wt% of PC$_{61}$BM is indicated on the right side of the graph. The curves are shifted vertically for clarity.
Figure S13: State diagram of not actively mixed P3HT-2:PC$_{61}$BM mixtures. The vertical dashed lines represent the composition range of the eutectic. The horizontal dashed line in the state diagram represents the onset of melting around the eutectic composition.

Figure S14: Thermograms of the not actively mixed P3HT-3:PC$_{61}$BM mixtures. The vertical dashed line represents the onset of the melting peaks close to the eutectic. The wt% of PC$_{61}$BM is indicated on the right side of the graph. The curves are shifted vertically for clarity.
Figure S15: State diagram of not actively mixed P3HT-3:PC$_{61}$BM mixtures. The vertical dashed lines represent the composition range of the eutectic. The horizontal dashed line in the state diagram represents the onset of melting around the eutectic composition.

Figure S16: Thermograms of P3HT-2:PC$_{61}$BM mixtures obtained without active mixing at 500 K.min$^{-1}$ after cooling at 1 K.min$^{-1}$. The 60 wt% PC$_{61}$BM (full line) represents a mixture that is richer in PC$_{61}$BM compared to the eutectic composition. The 55 wt% PC$_{61}$BM (dashed line) represents a mixture that contains less PC$_{61}$BM than the eutectic composition.