

# ***Supplementary Material to:***

## **Electrically Conductive Biocomposites Based on Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) and Wood-Derived Carbon Fillers**

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This file contains additional information about the performed GPC analyses of PHBV before and after processing. 5 representative samples (out of total 15 samples) are shown with the sample PHBV\_CF2000\_10 representing all PHBV composite samples (except for PHBV\_CF1500\_10) which all showed very similar results.

Figure S1 shows the GPC curves of the 5 representative samples. Due to the varying intensities of the relevant peak, the shift is not clearly visible. Therefore, Figure S2 shows the same data after baseline correction and normalization as well as zoom at the relevant peak. A clear shift towards longer retention times in the following order can be observed:

PHBV (virgin) < PHBV < PHBV\_CF2000\_10 < PHBV190 < PHBV\_CF1500\_10

The largest shift towards longer retention times can be observed for PHBV\_CF1500\_10, indicating the lowest molecular mass, hence to most pronounced degradation during processing.

Figure S3 – S7 show the molecular mass distributions of the 5 samples from the Agilent GPC-Addon software.

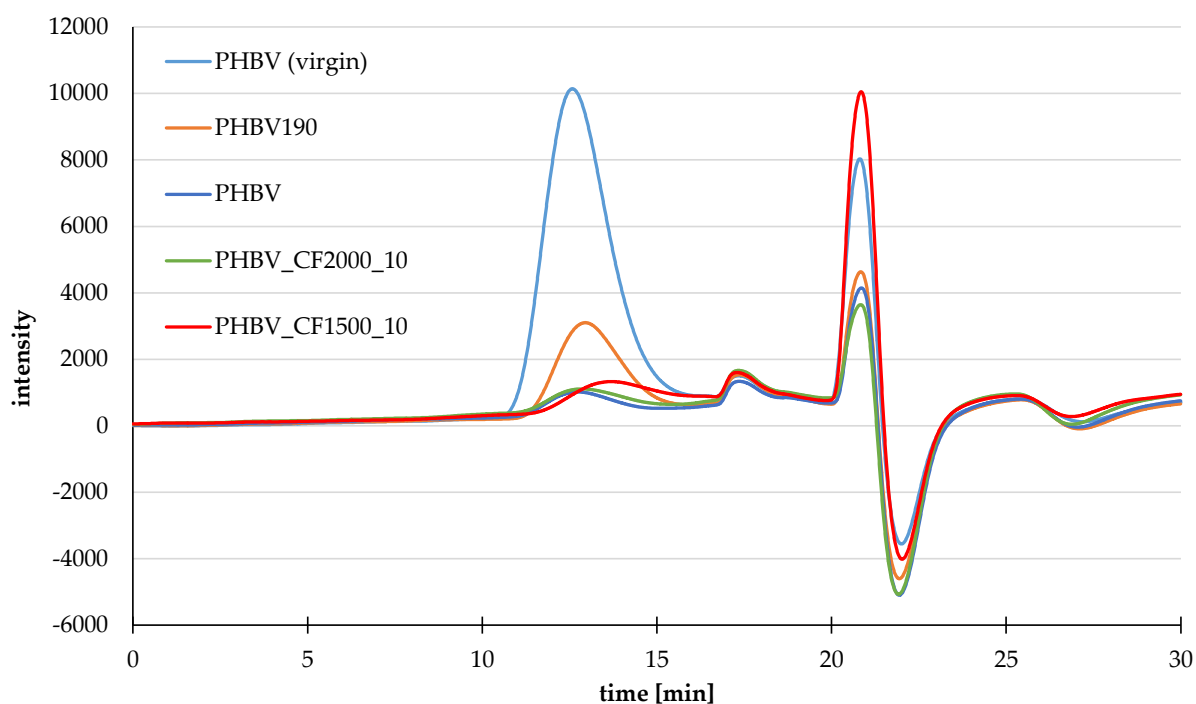


Figure S1: GPC curves of PHBV before processing (PHBV (virgin)), PHBV kneaded at 190 °C (PHBV190), PHBV kneaded at 173 °C (PHBV), PHBV mixed at 173 °C with 10 vol% of cellulose fibers carbonized at 2000 °C (PHBV\_CF2000\_10) and PHBV mixed at 173 °C with 10 vol% of cellulose fibers carbonized at 1500 °C (PHBV\_CF1500\_10).

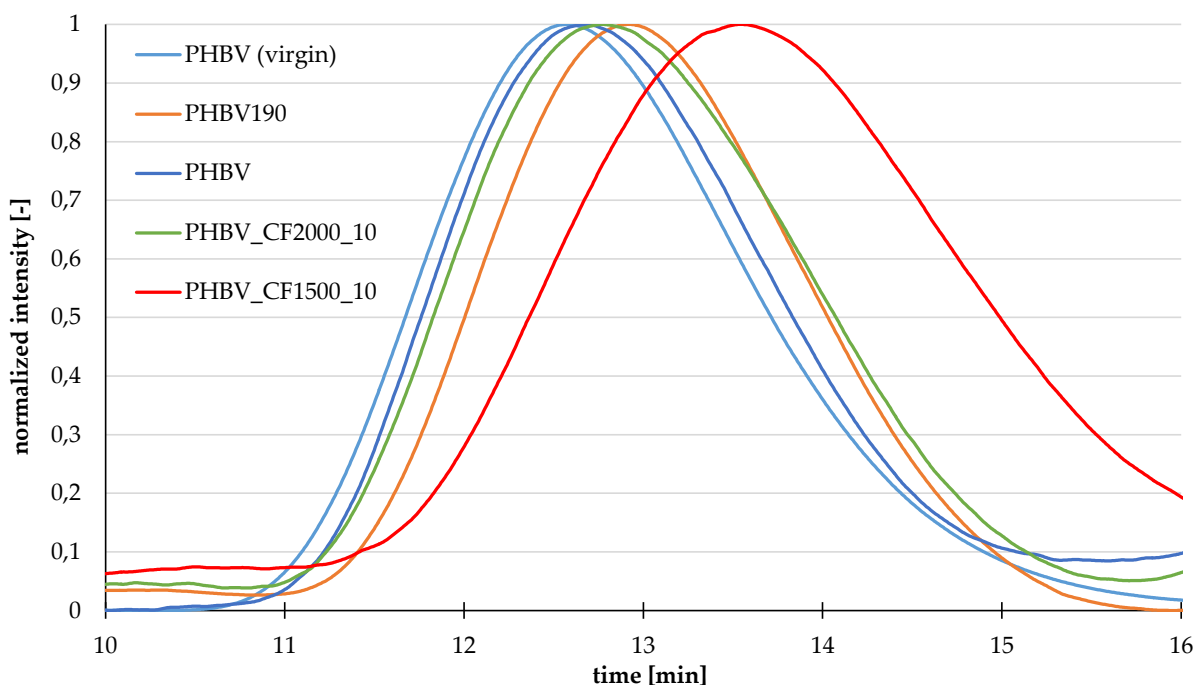


Figure S2: GPC curves after baseline correction and normalization. Zoom at analyzed peak.

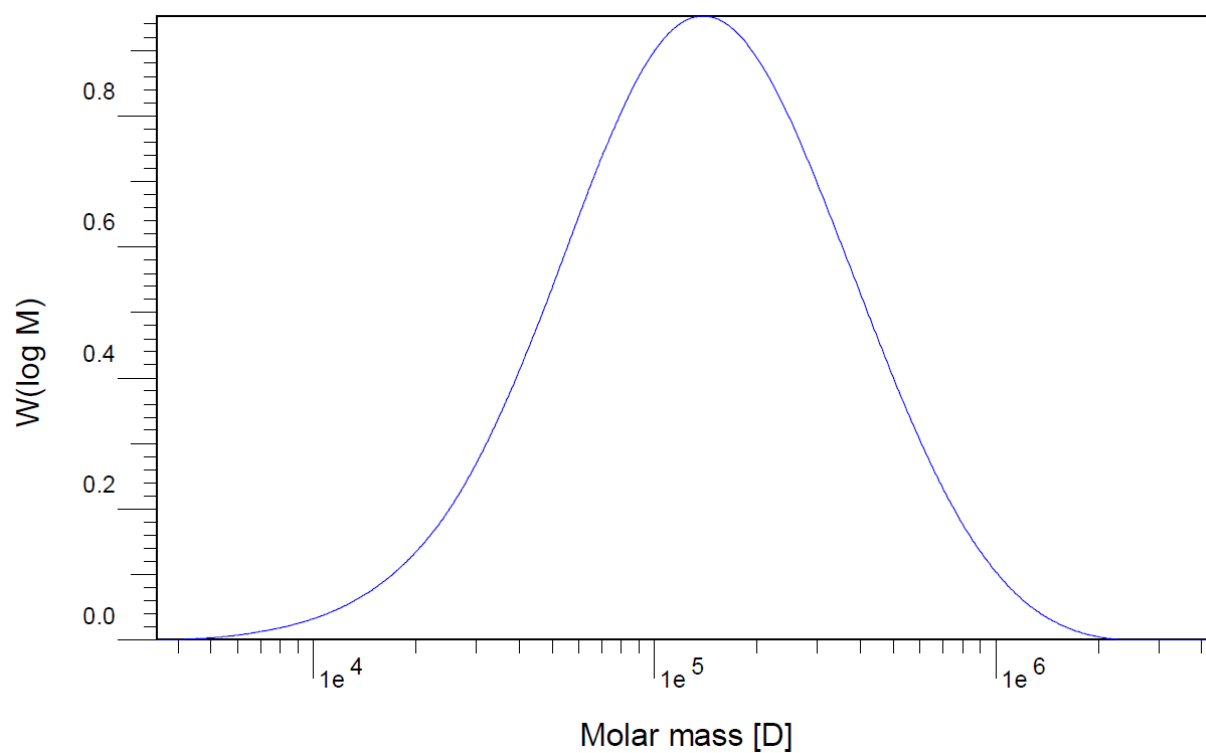


Figure S3: Peak of PHBV (virgin) analyzed by Agilent GPC-Addon

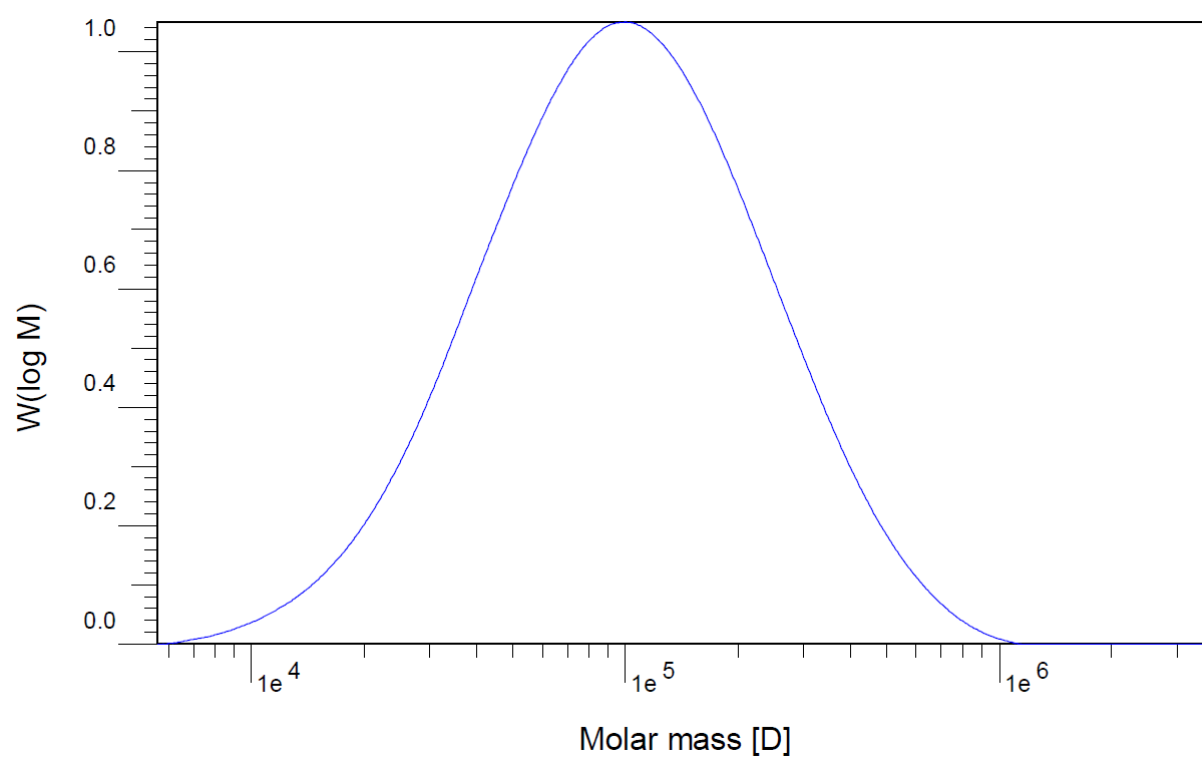


Figure S4: Peak of PHBV190 analyzed by Agilent GPC-Addon

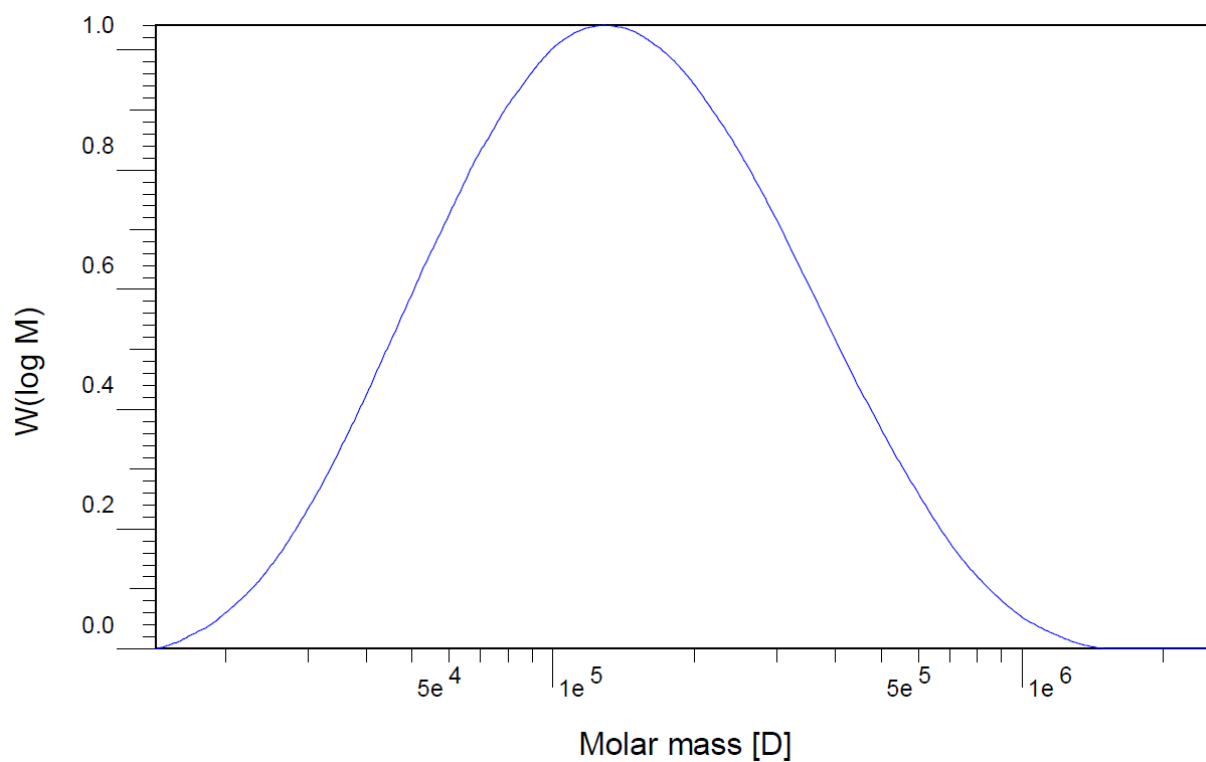


Figure S5: Peak of PHBV analyzed by Agilent GPC-Addon

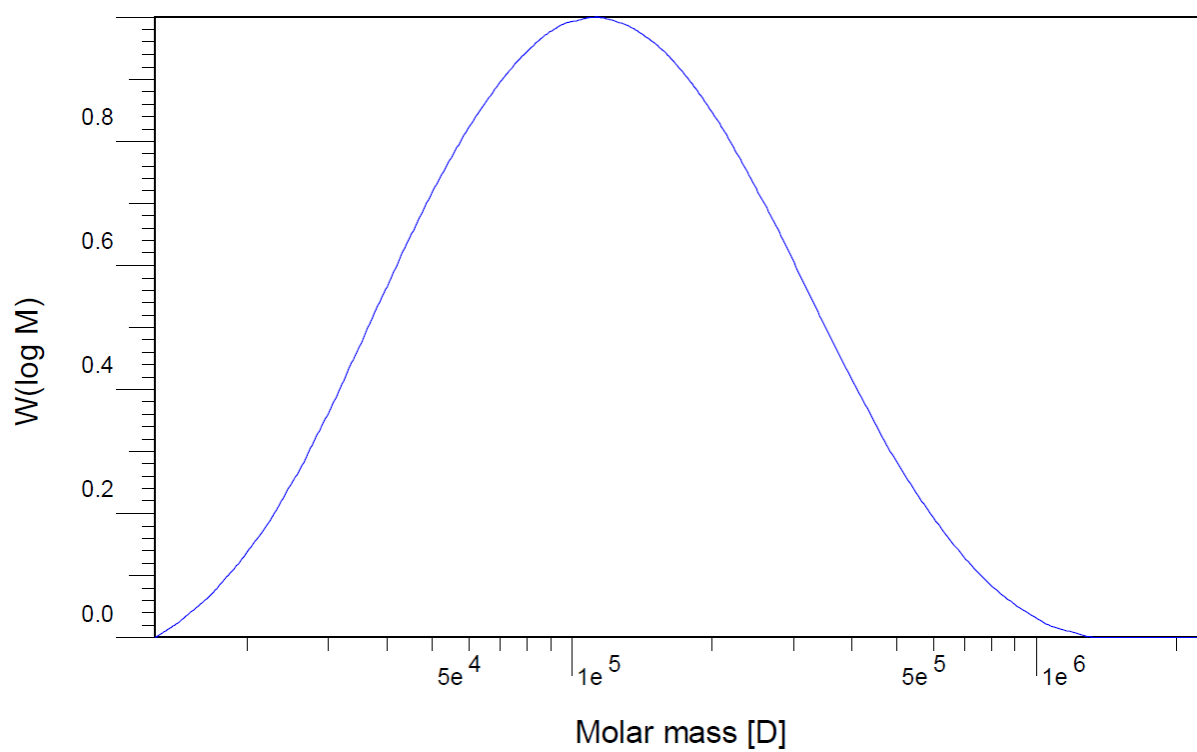


Figure S6: Peak of PHBV\_CF2000\_10 analyzed by Agilent GPC-Addon

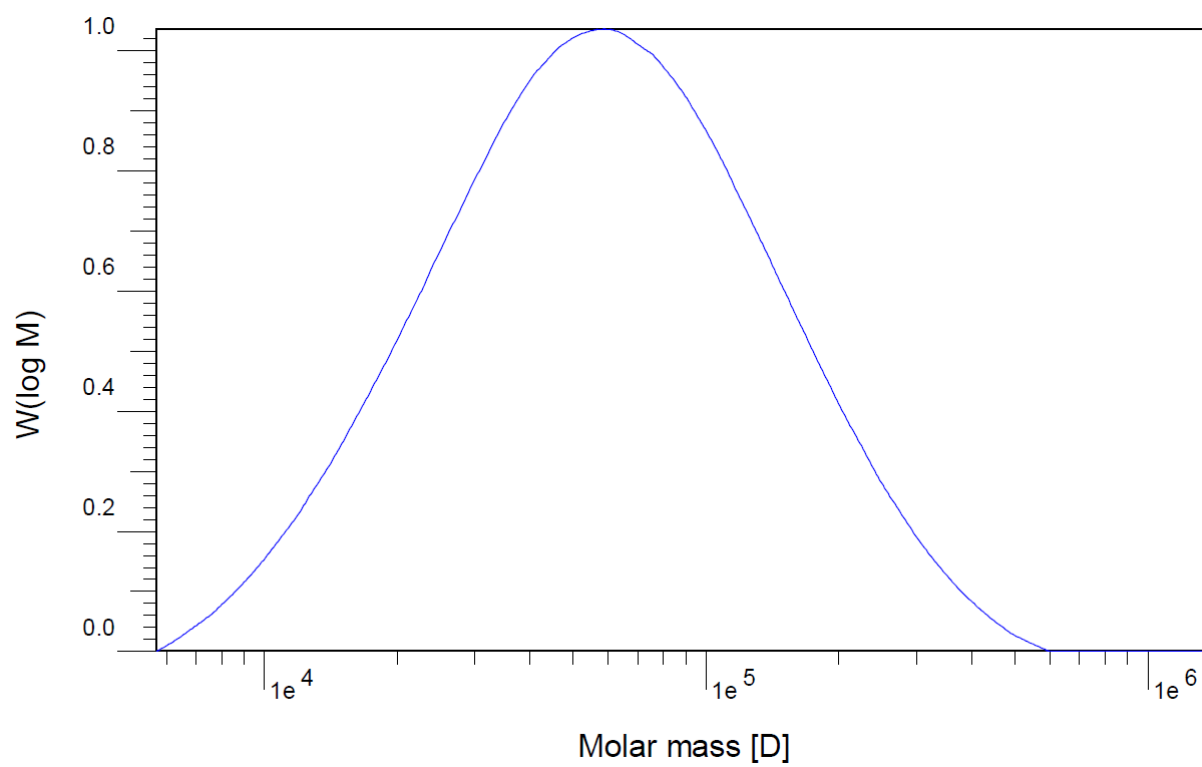


Figure S7: Peak of PHBV\_CF1500\_10 analyzed by Agilent GPC-Addon