Supplementary Material

Energy Consumption of Electric Vehicles in Europe

Martin Weiss, Trey Winbush, Alexandra Newman, Eckard Helmers

Note: Please refer to STHDA [58] for information on how to interpret the diagnostic plots.

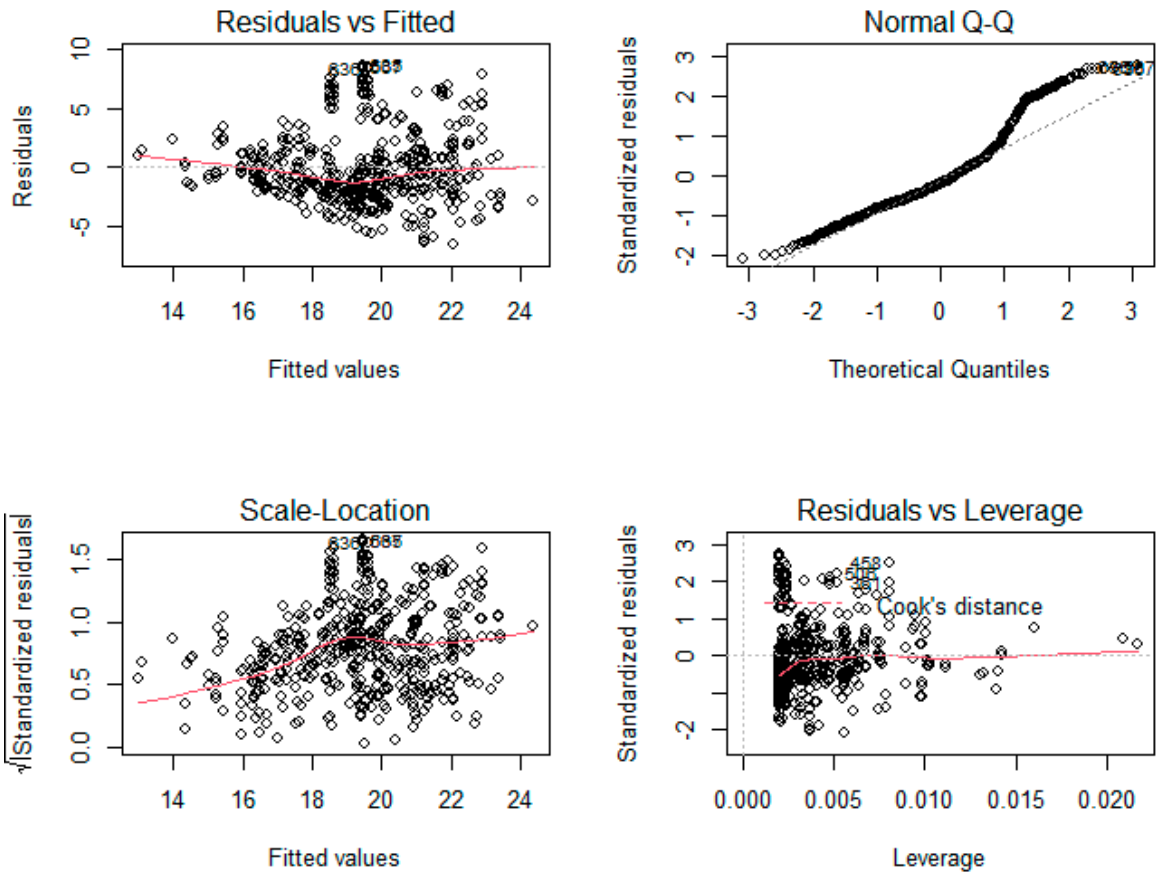


Figure S1: Diagnostic residuals plot - certified energy consumption as a function of vehicle mass

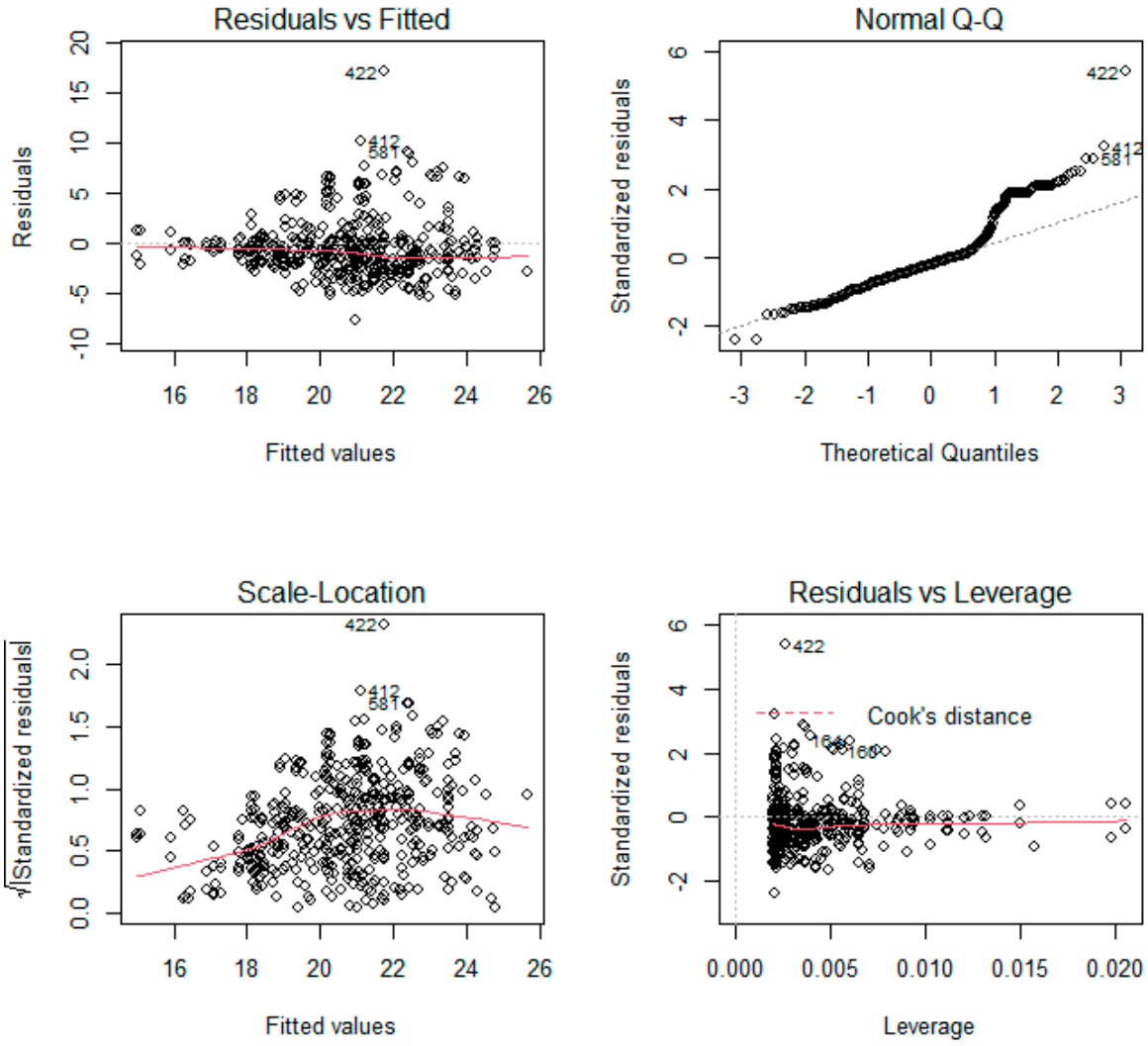


Figure S2: Diagnostic residuals plot - real-world energy consumption as a function of vehicle mass

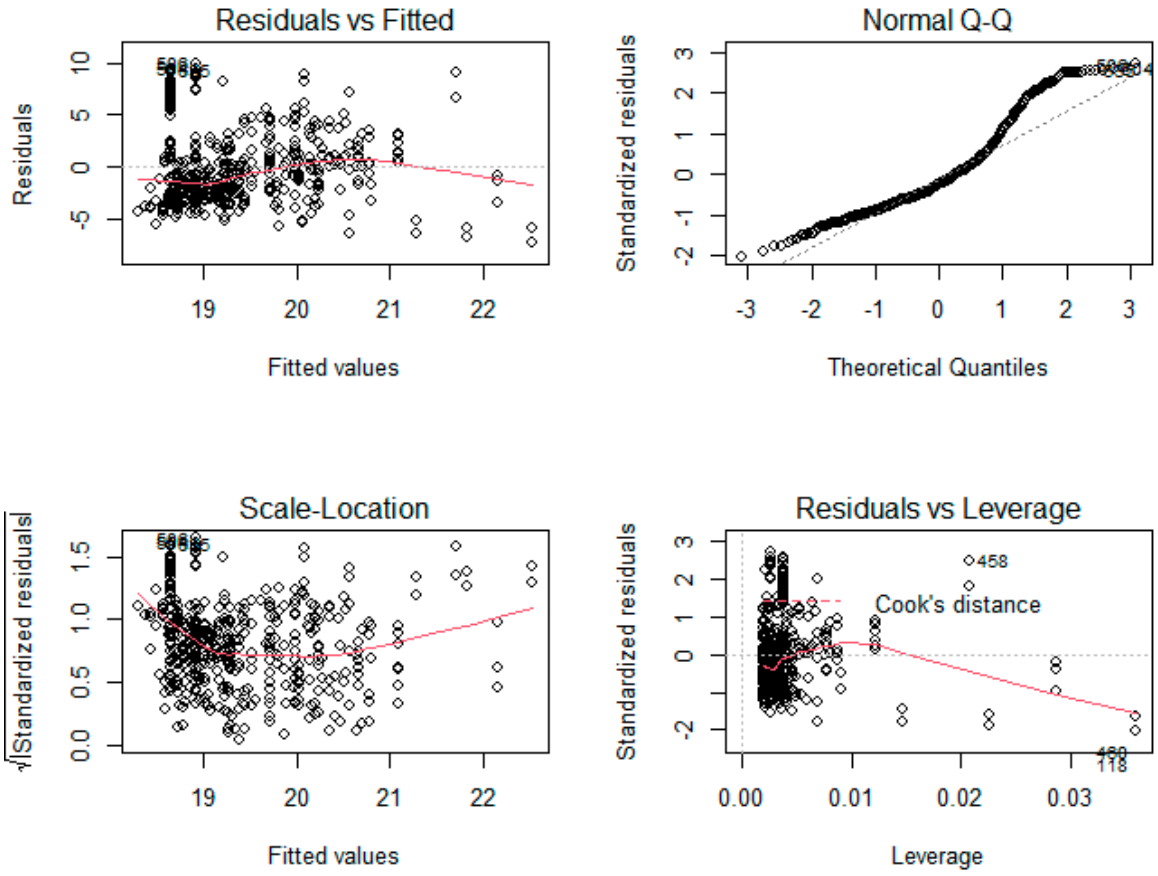


Figure S3: Diagnostic residuals plot - certified energy consumption as a function of power

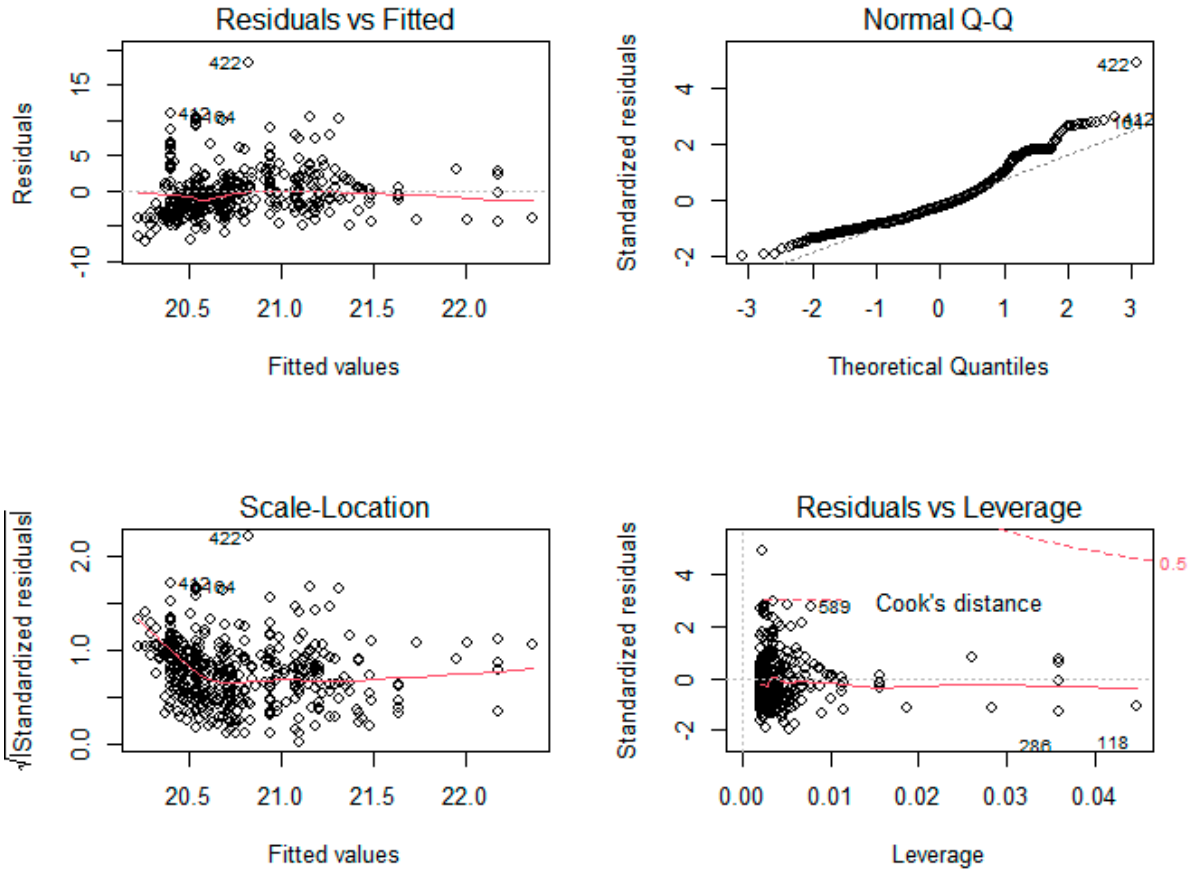


Figure S4: Diagnostic residuals plot - real-world energy consumption as a function of power

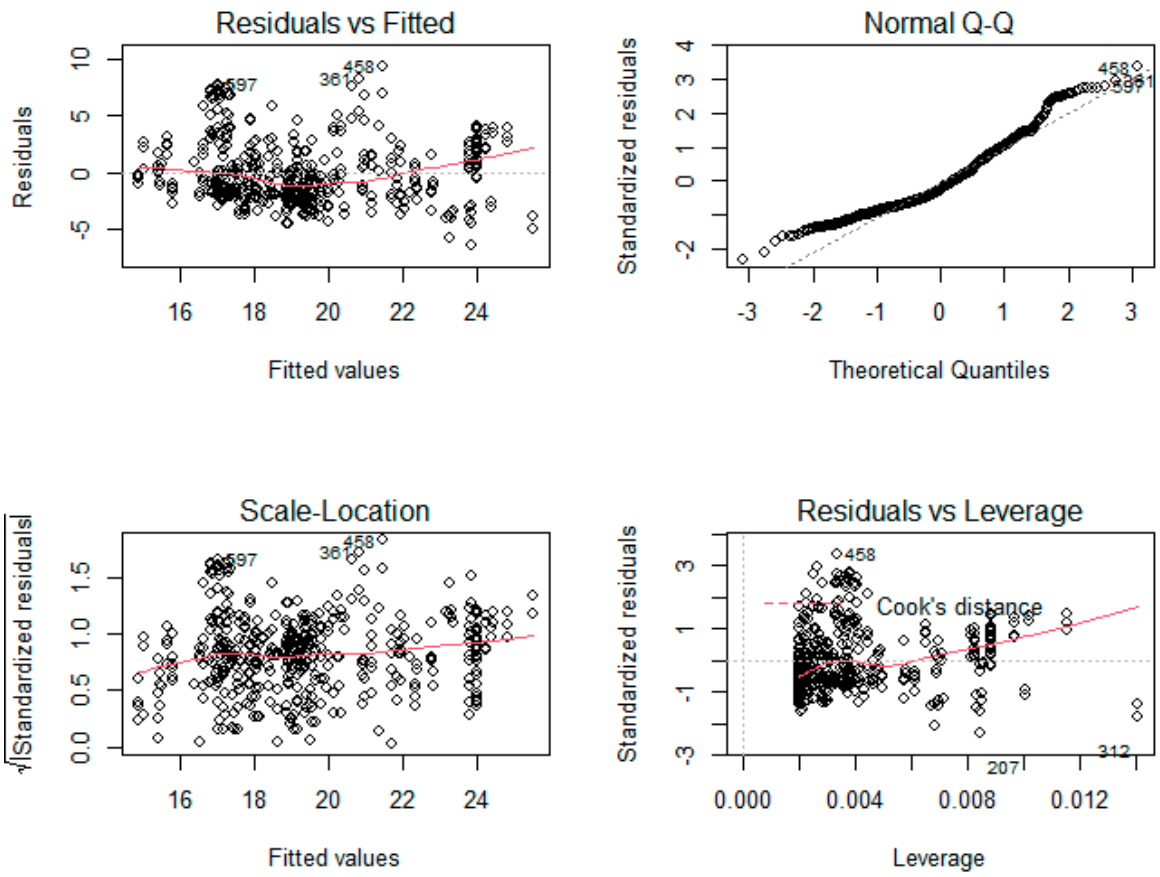


Figure S5: Diagnostic residuals plot - certified energy consumption as a function of frontal area

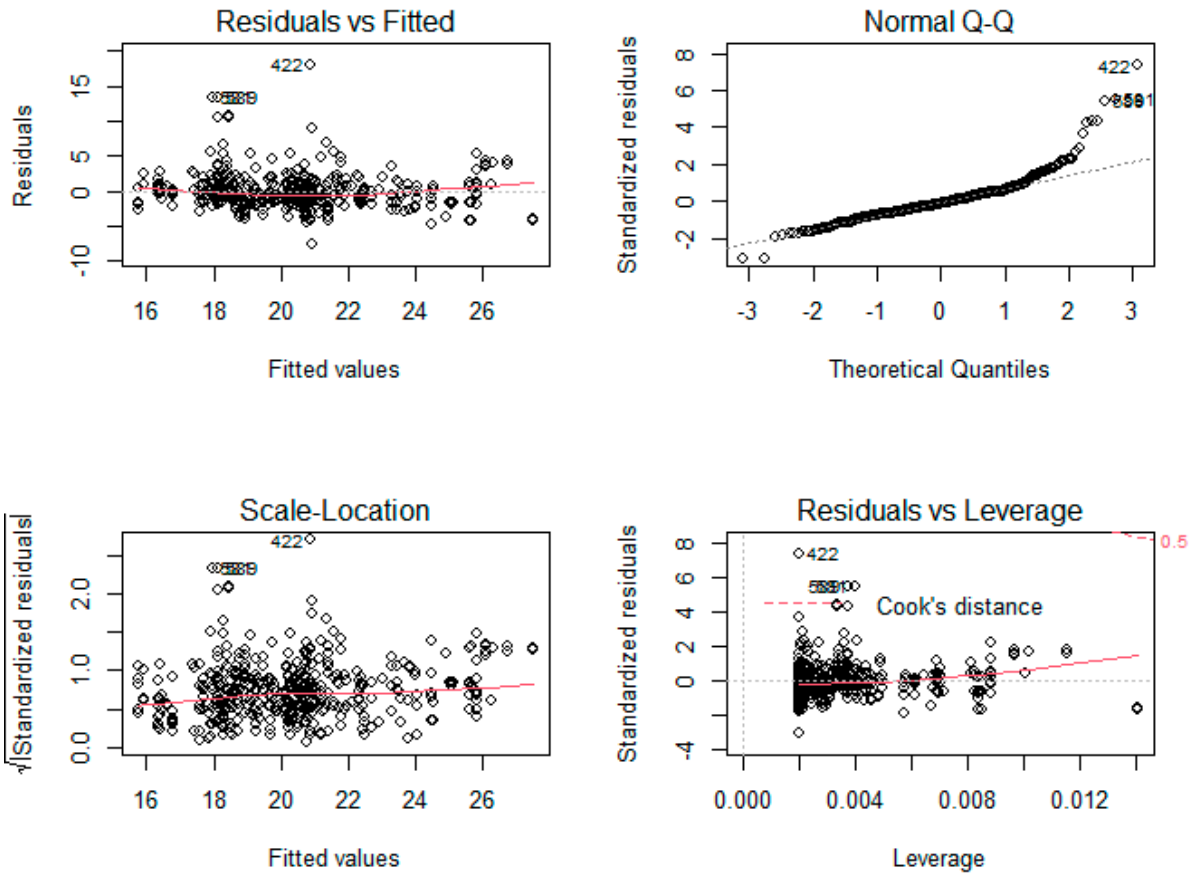


Figure S6: Diagnostic residuals plot - real-world energy consumption as a function of frontal area

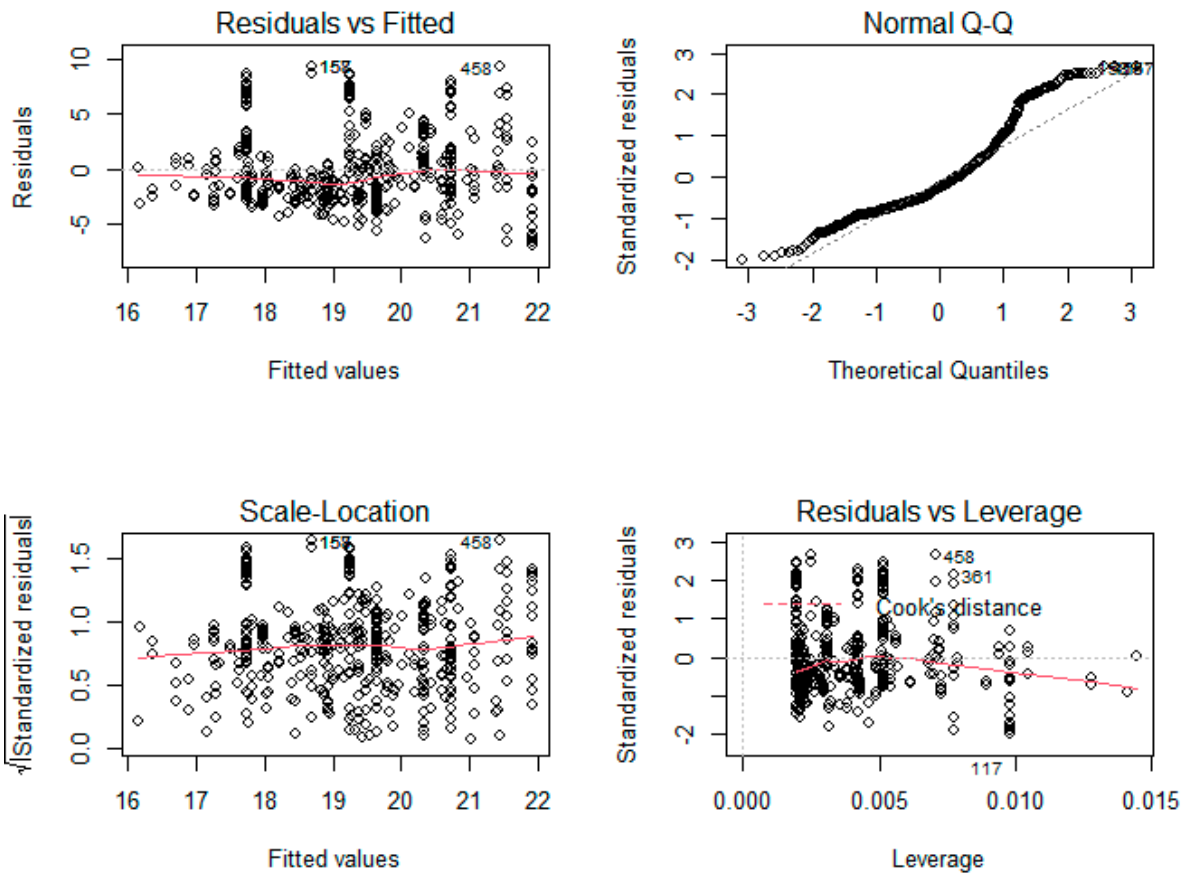


Figure S7: Diagnostic residuals plot - certified energy consumption as a function of nominal battery capacity

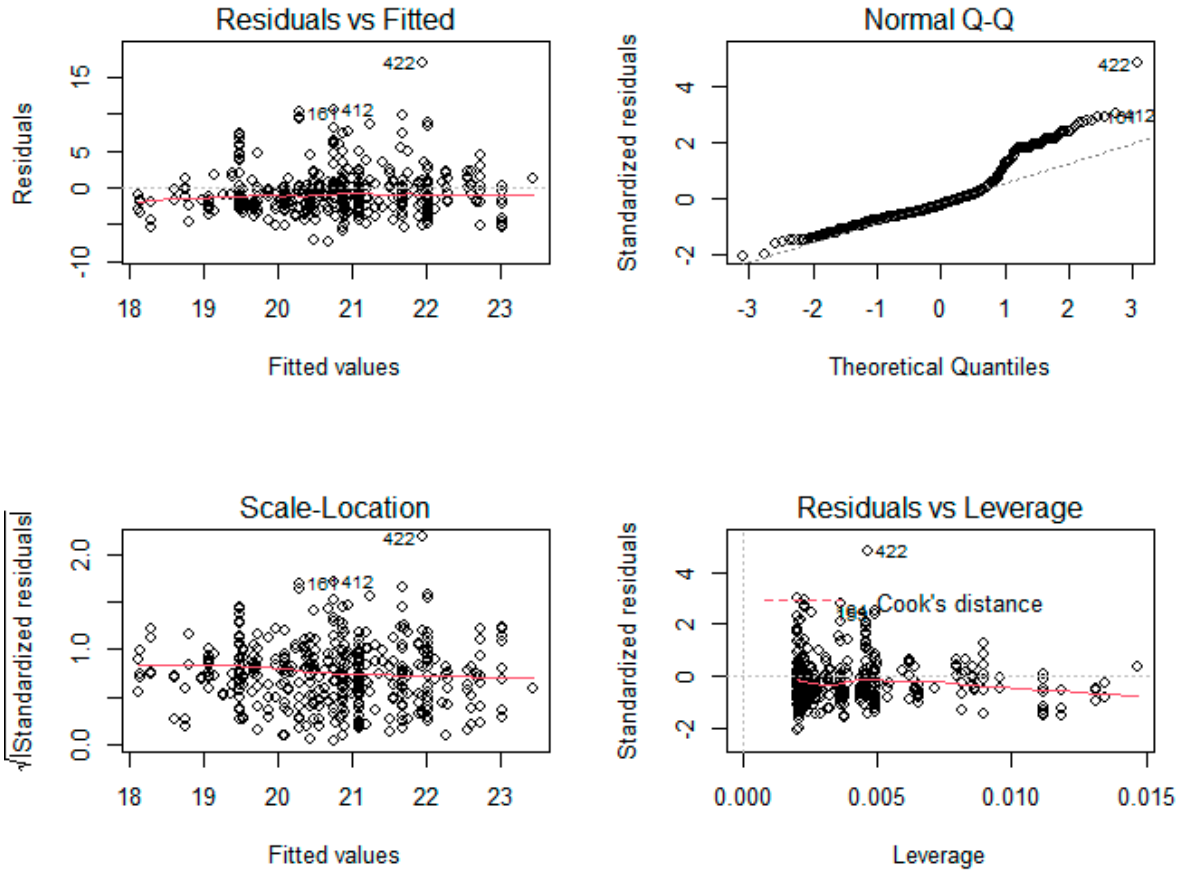


Figure S8: Diagnostic residuals plot - real-world energy consumption as a function of nominal battery capacity

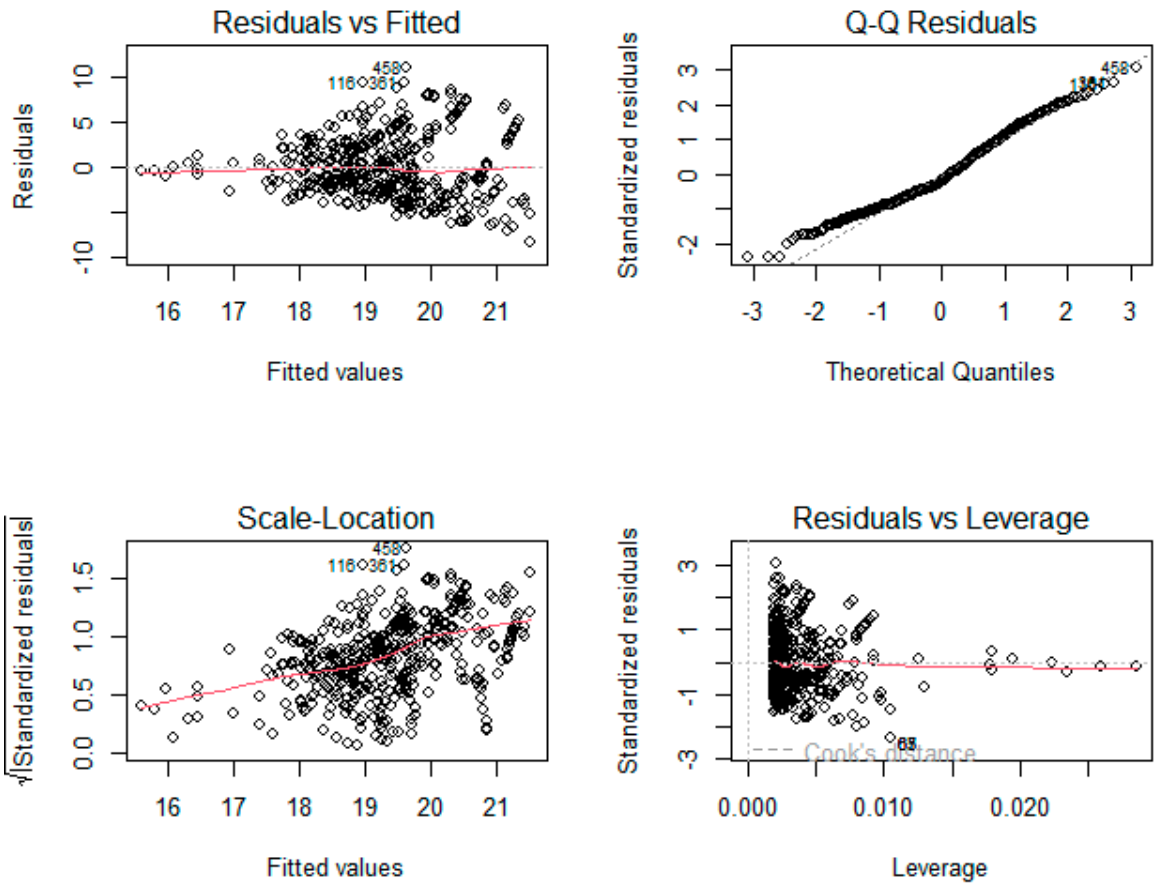


Figure S9: Diagnostic residuals plot - certified energy consumption as a function of certified drive range

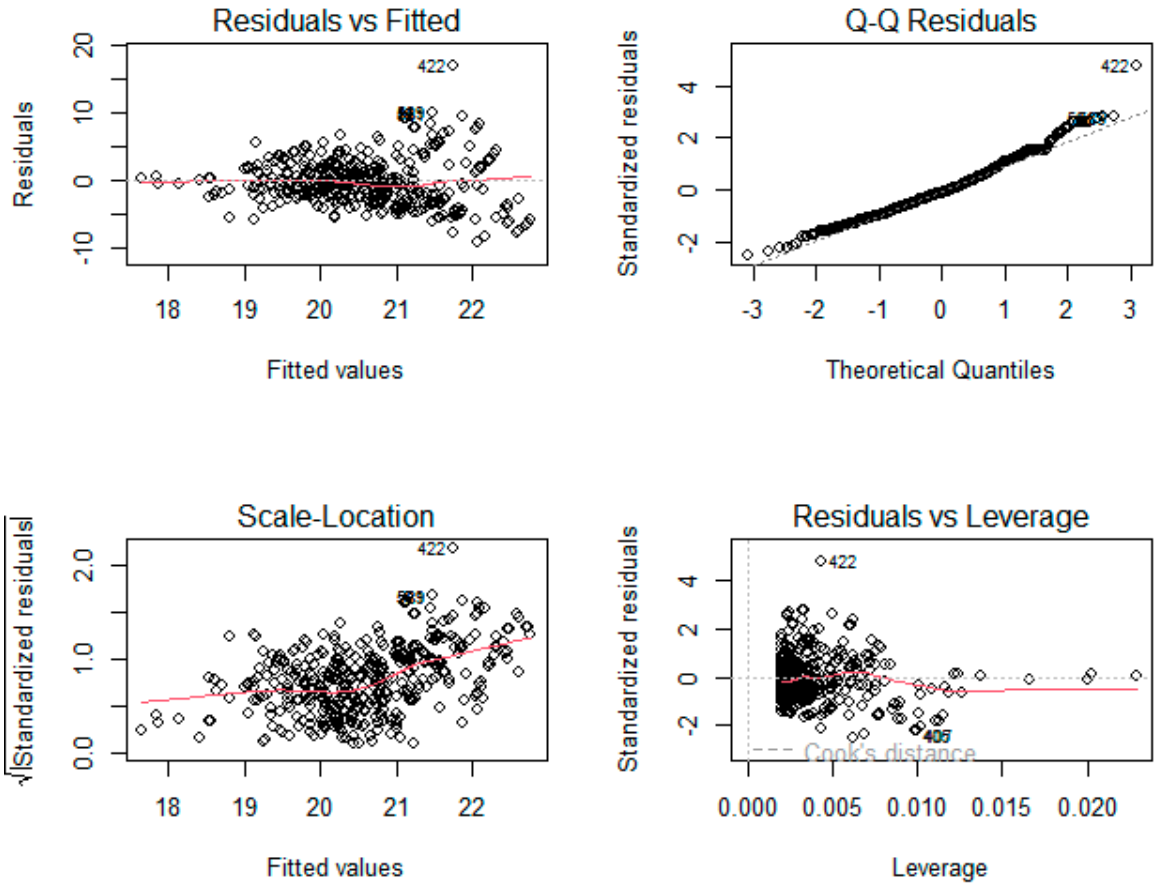


Figure S10: Diagnostic residuals plot - real-world energy consumption as a function of real-world drive range

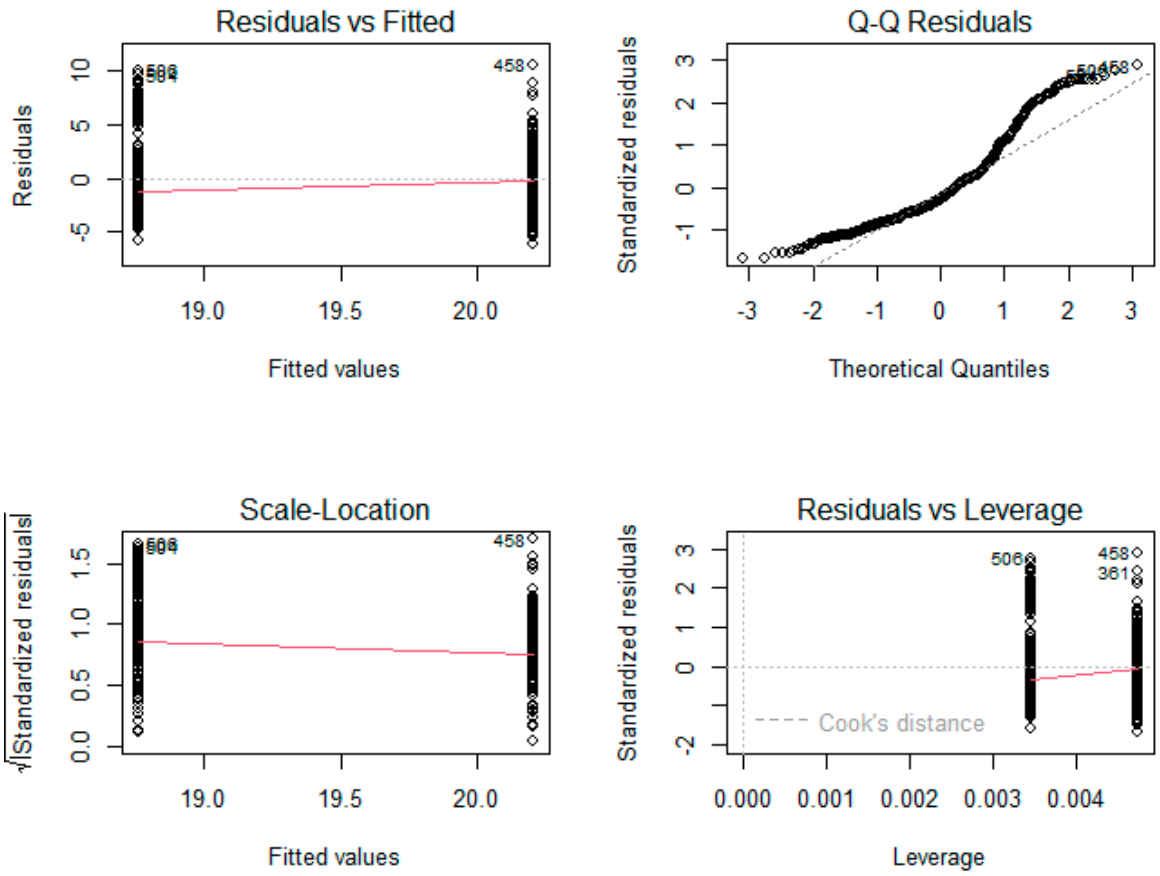


Figure S11: Diagnostic residuals plot - certified energy consumption as a function of drivetrain (two-wheel versus all-wheel drive)

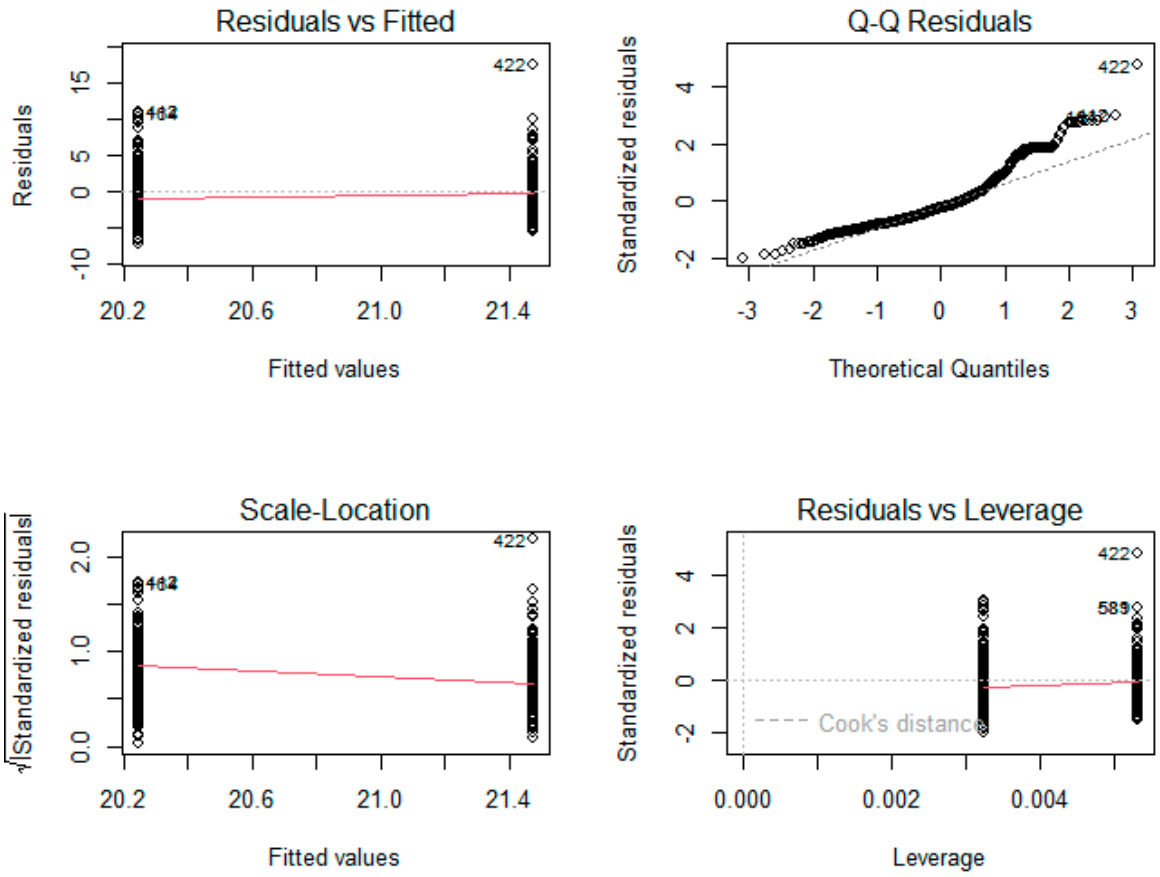


Figure S12: Diagnostic residuals plot - real-world energy consumption as a function of drivetrain (two-wheel versus all-wheel drive)

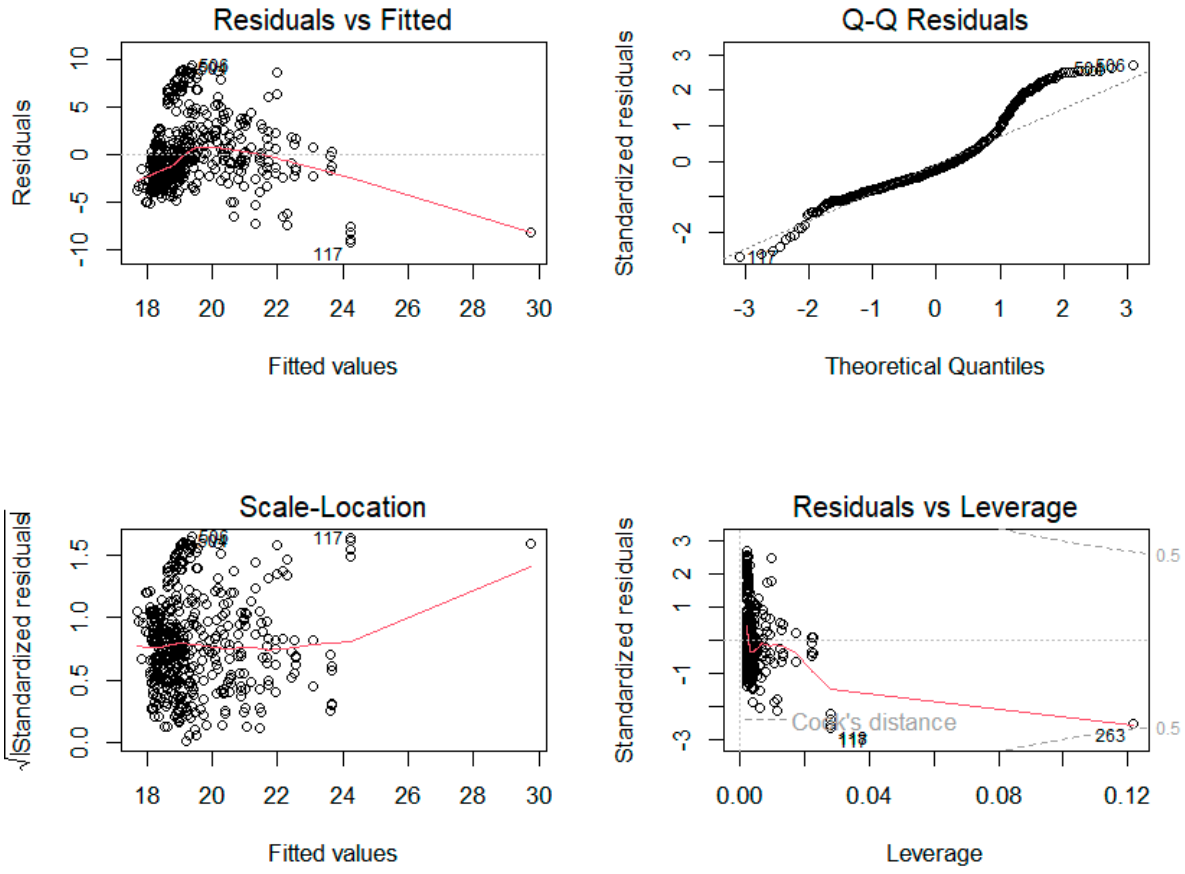


Figure S13: Diagnostic residuals plot – certified energy consumption as a function of price

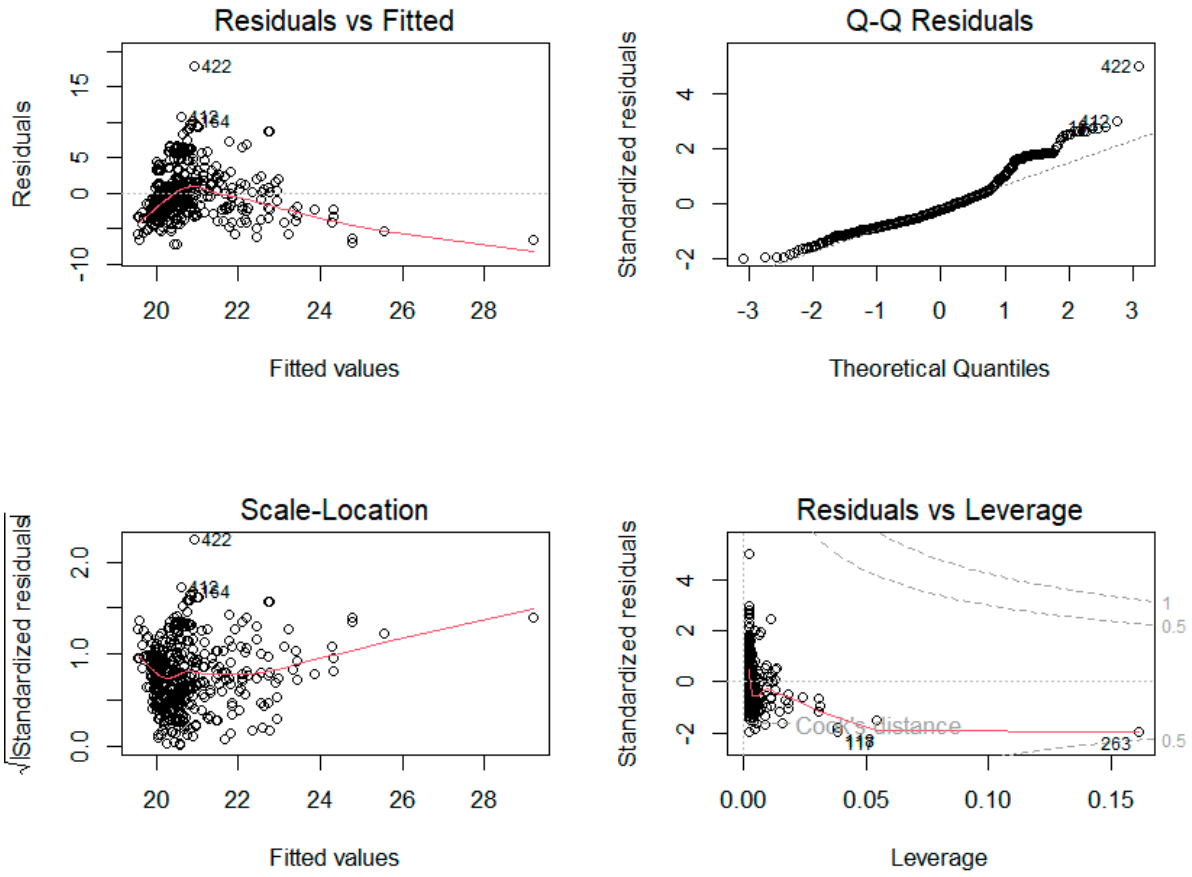


Figure S14: Diagnostic residuals plot - real-world energy consumption as a function of price

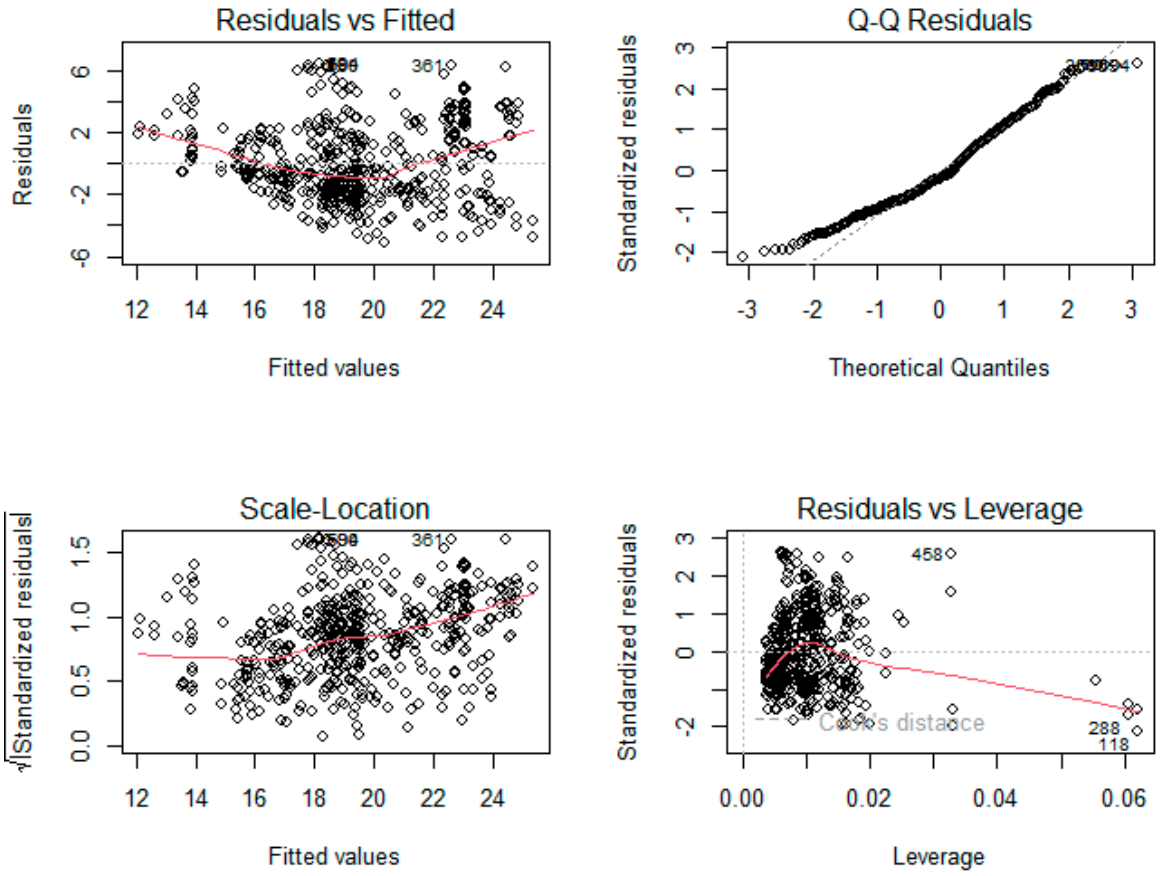


Figure S15: Diagnostic residuals plot - certified energy consumption as a function of vehicle mass, power, frontal area, and drivetrain

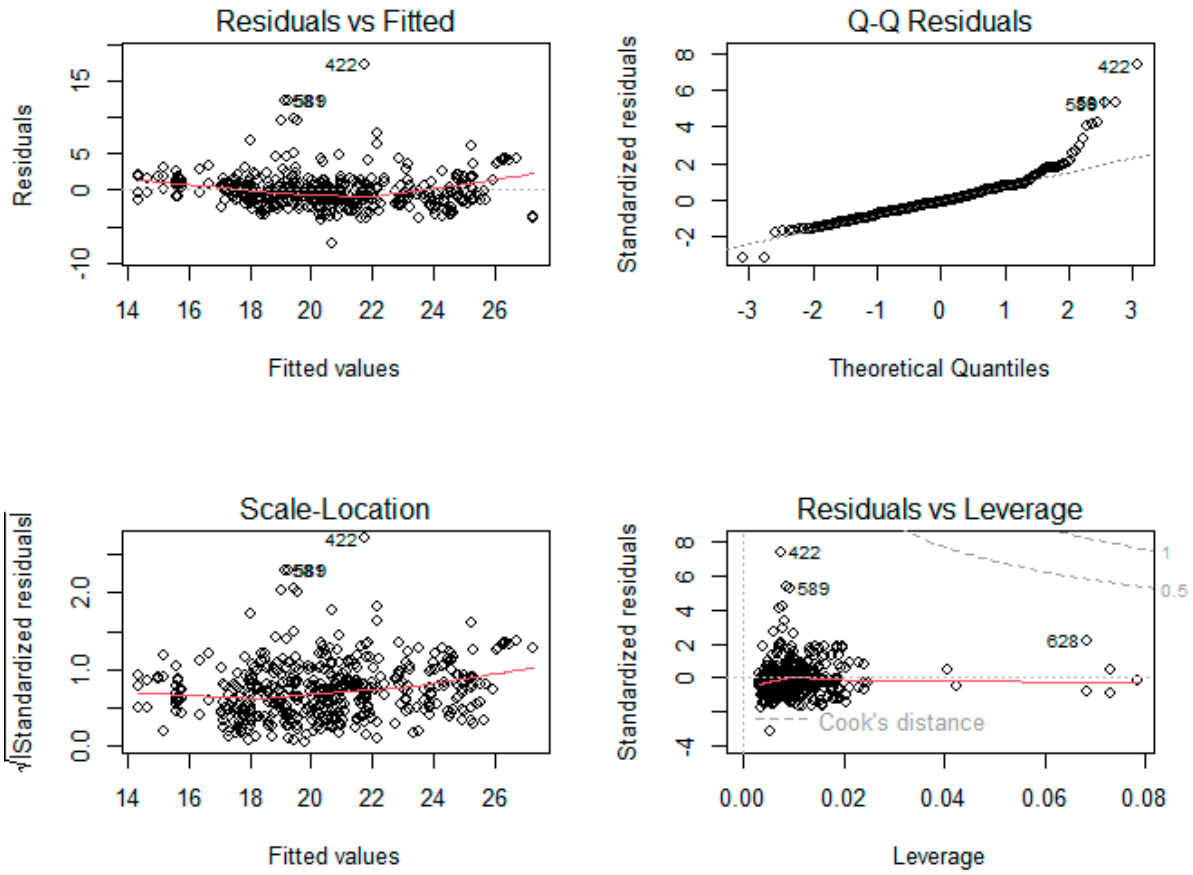


Figure S16: Diagnostic residuals plot - real-world energy consumption as a function of vehicle mass, power, frontal area, and drivetrain

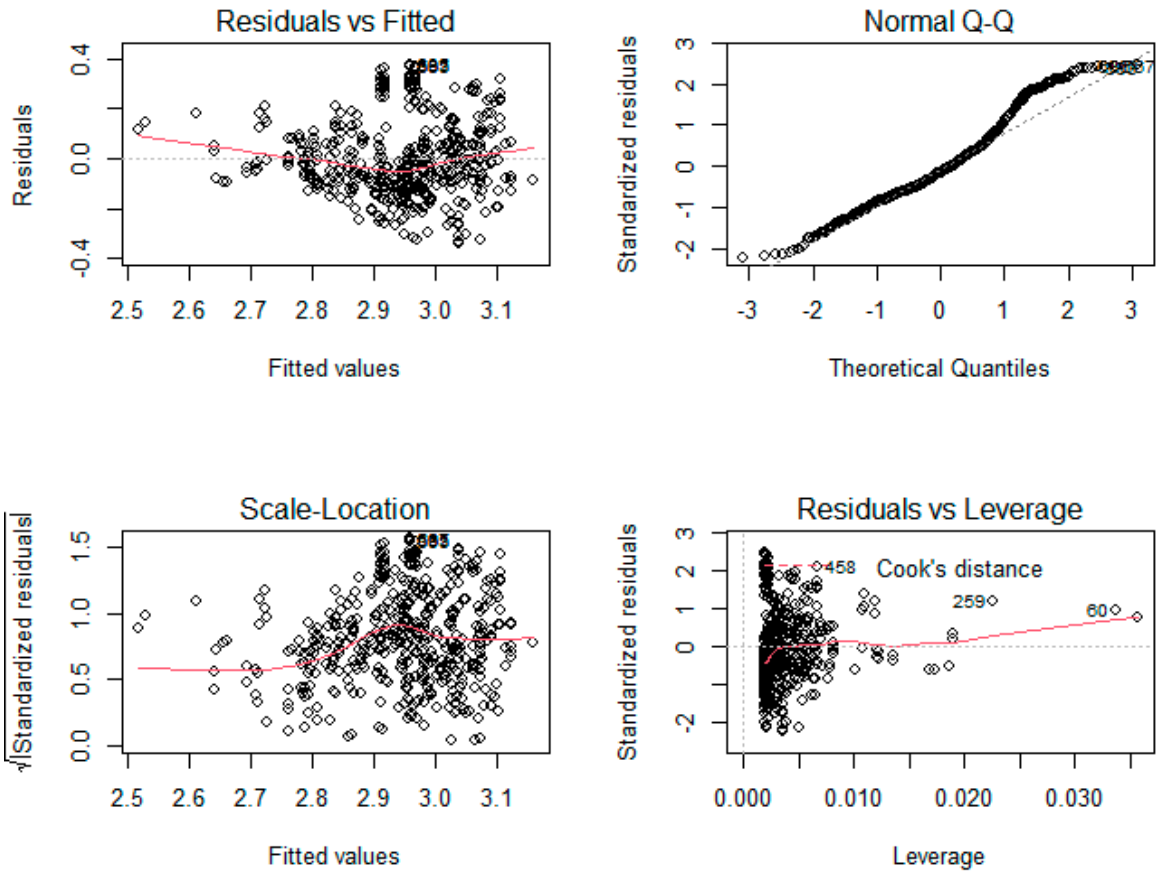


Figure S17: Diagnostic residuals plot – *log* certified energy consumption as a function of *log* vehicle mass

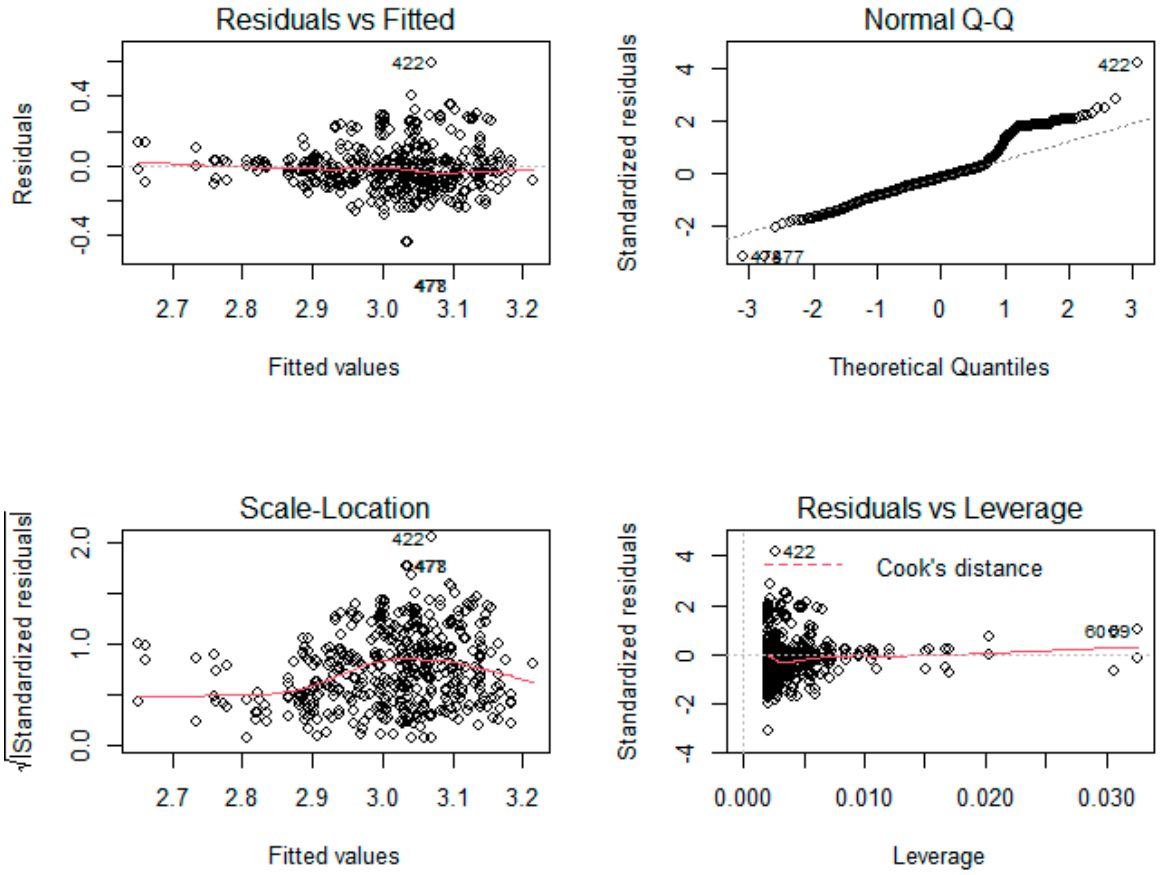


Figure S18: Diagnostic residuals plot – *log* real-world energy consumption as a function of *log* vehicle mass

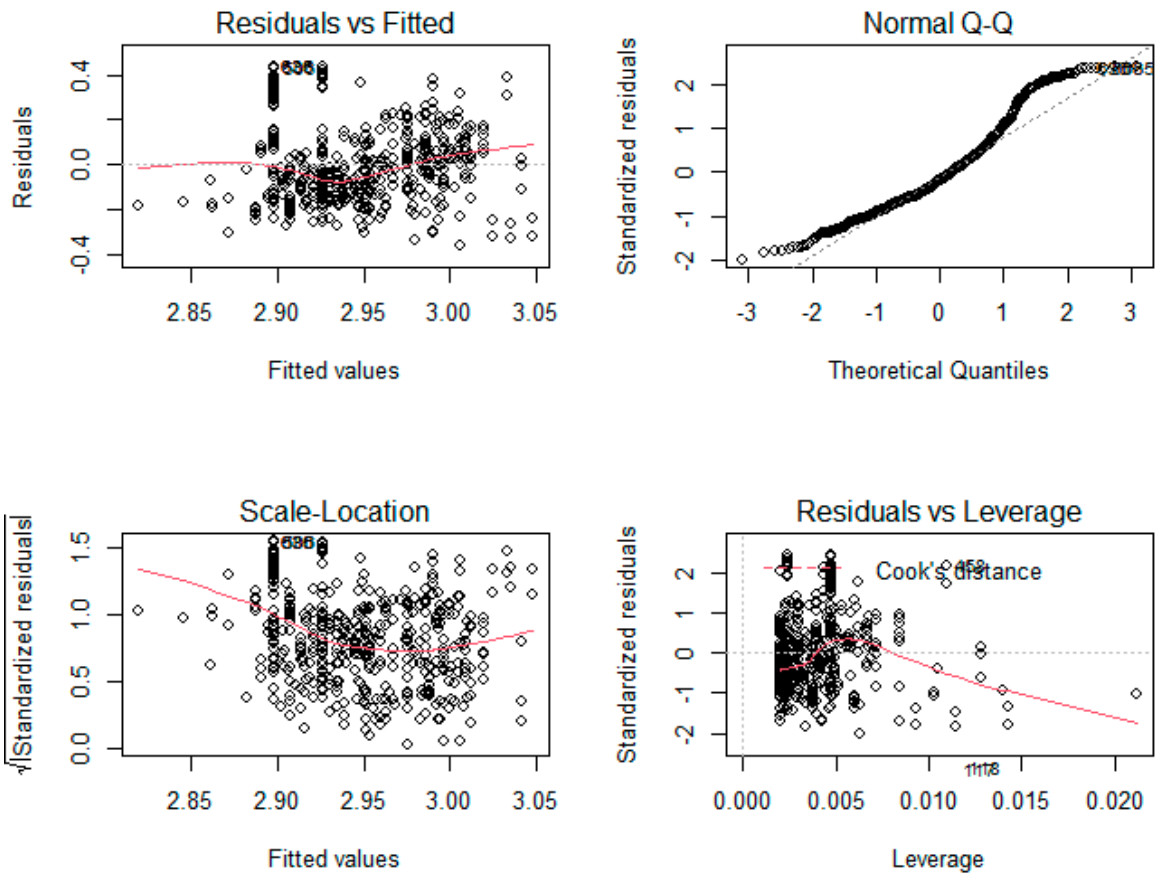


Figure S19: Diagnostic residuals plot – *log* certified energy consumption as a function of *log* power

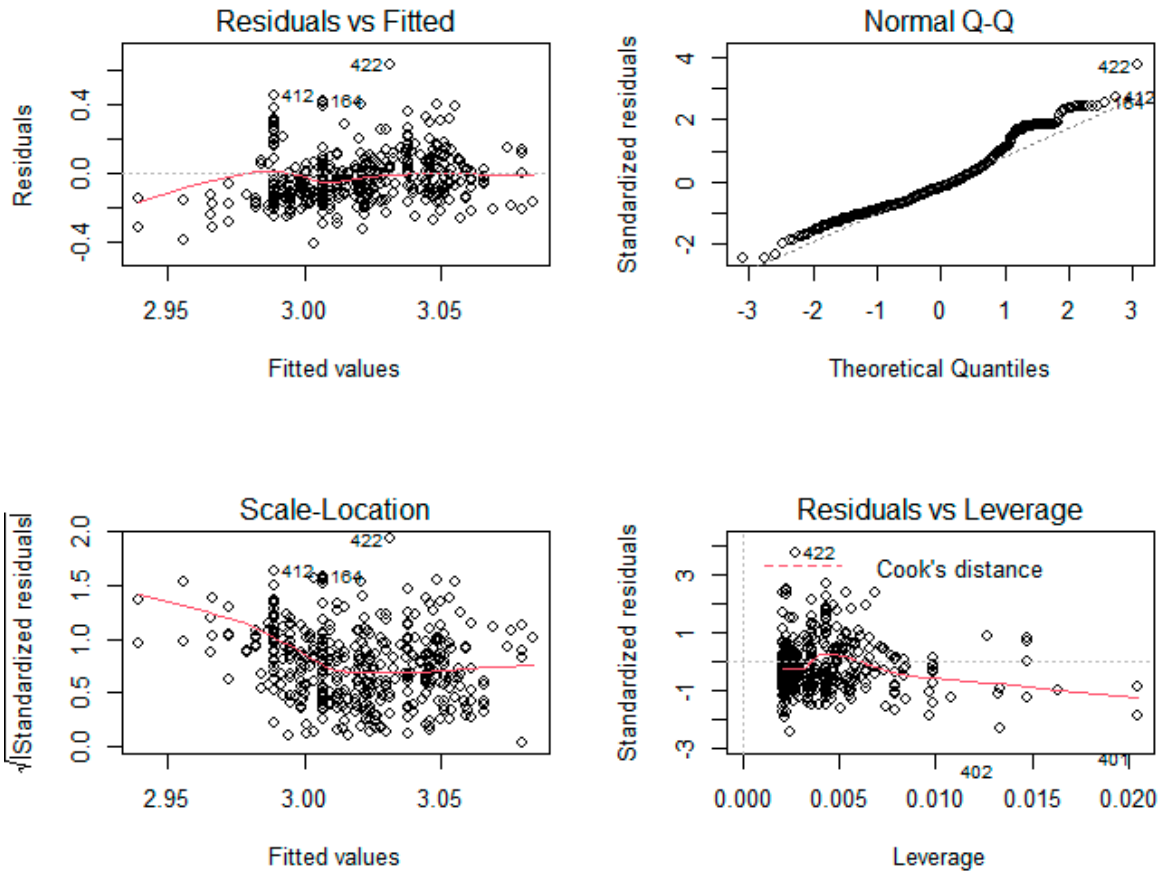


Figure S20: Diagnostic residuals plot – real-world energy consumption as a function of *log* power

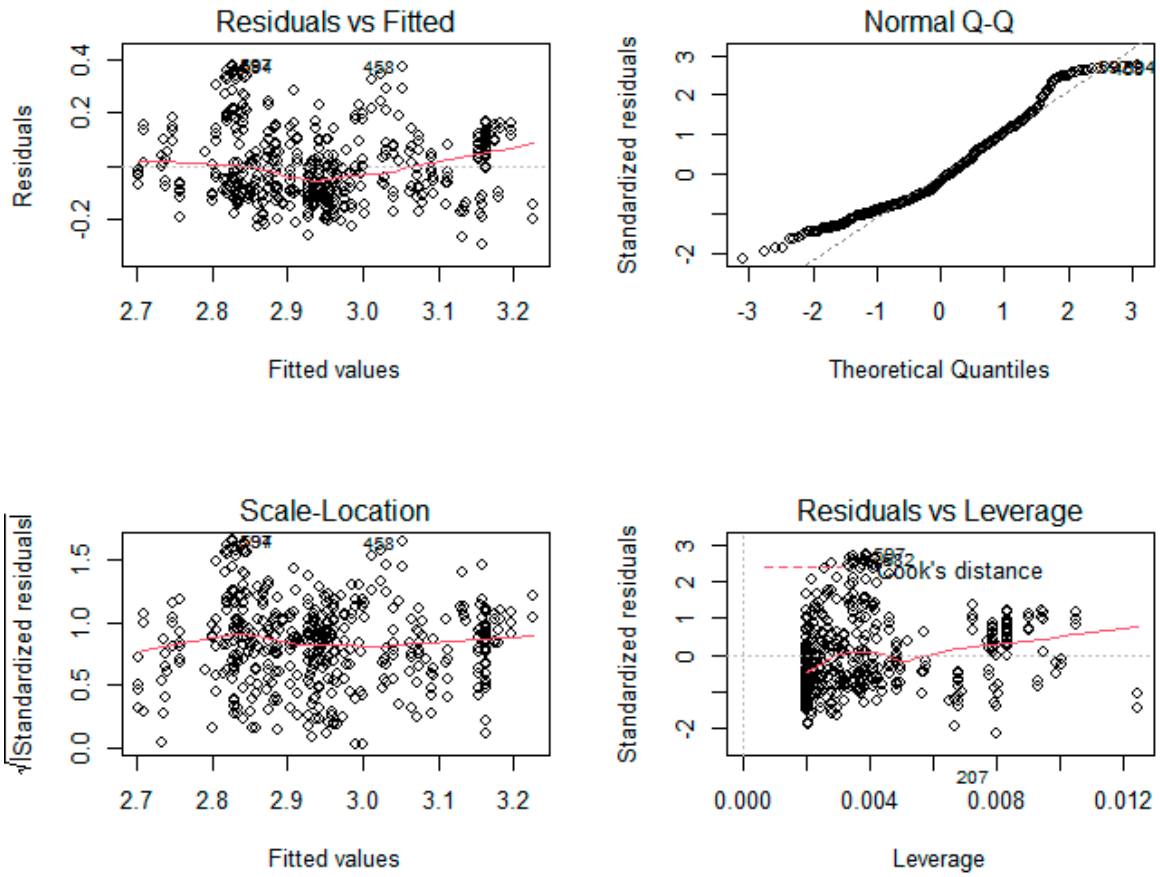


Figure S21: Diagnostic residuals plot – *log* certified energy consumption as a function of *log* frontal area

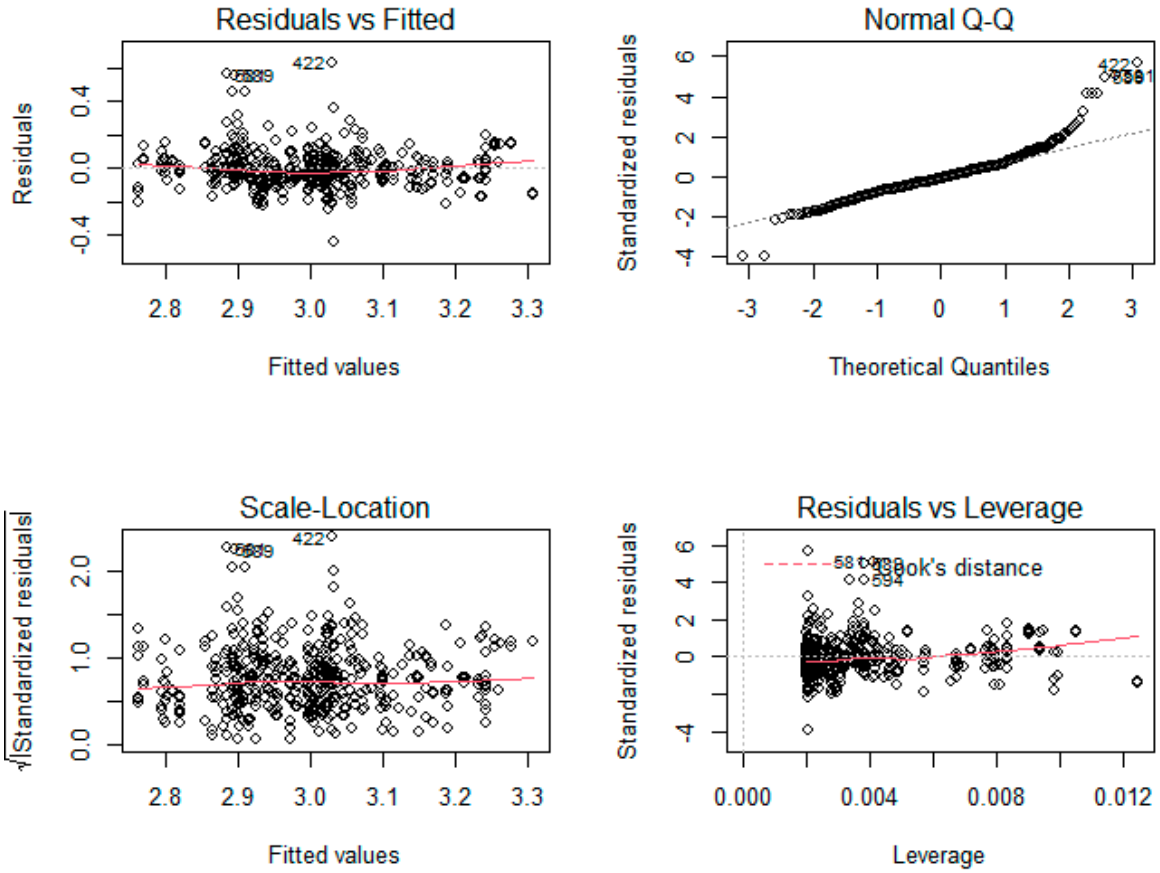


Figure S22: Diagnostic residuals plot – *log* real-world energy consumption as a function of *log* frontal area

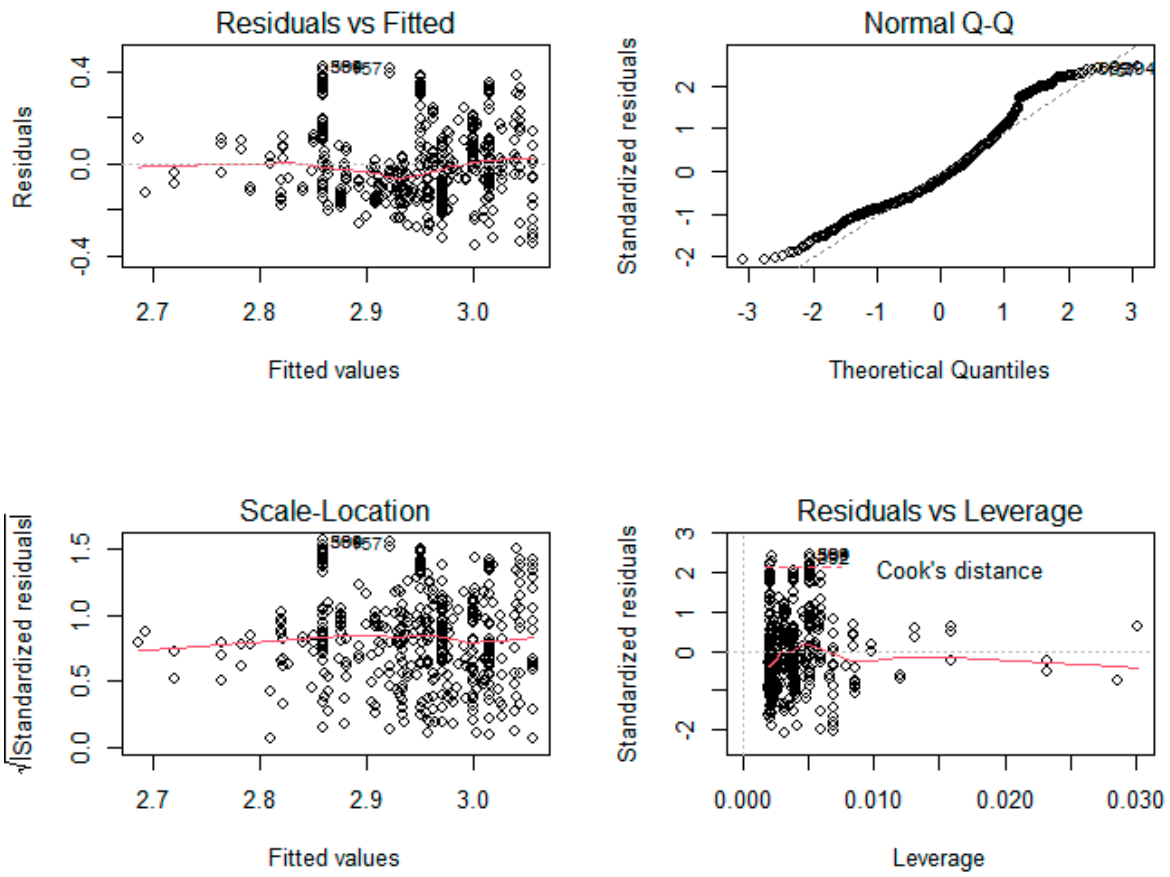


Figure S23: Diagnostic residuals plot – *log* certified energy consumption as a function of *log* nominal battery capacity

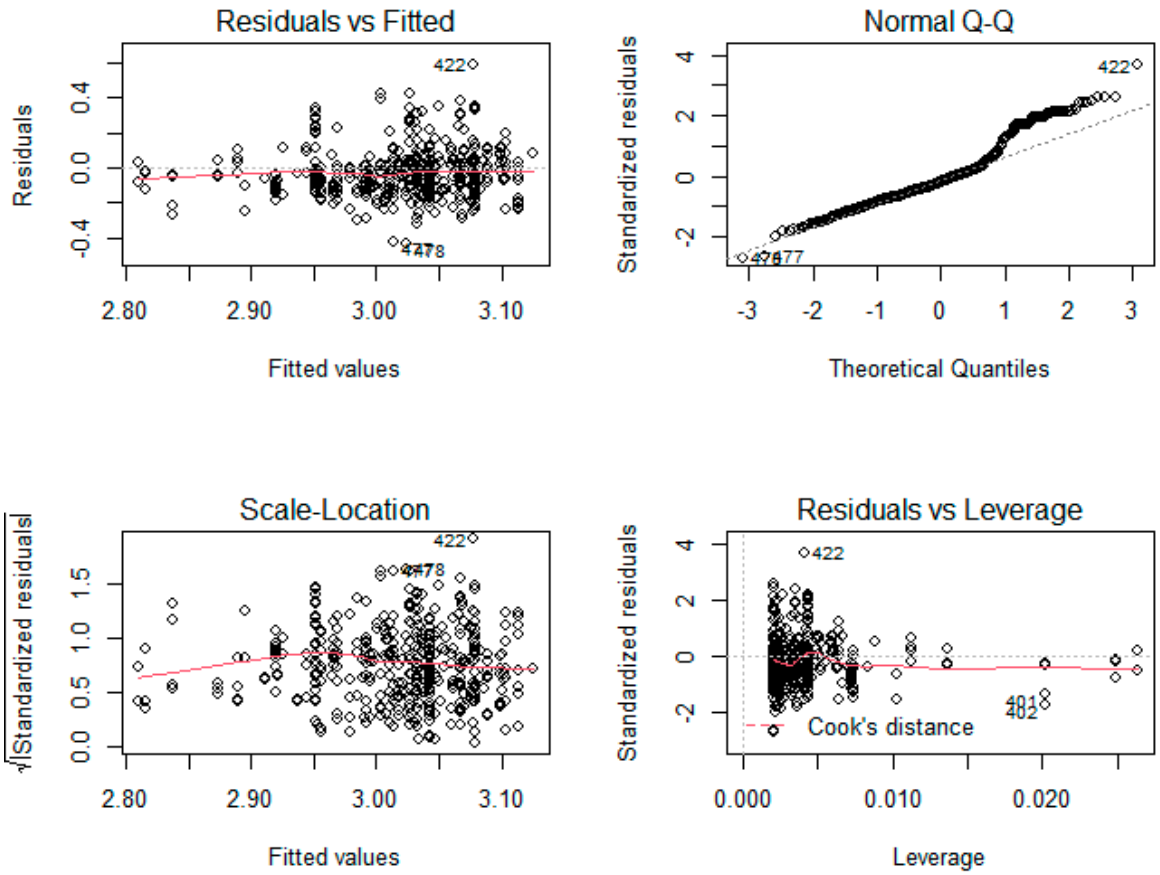


Figure S24: Diagnostic residuals plot – *log* real-world energy consumption as a function of *log* nominal battery capacity

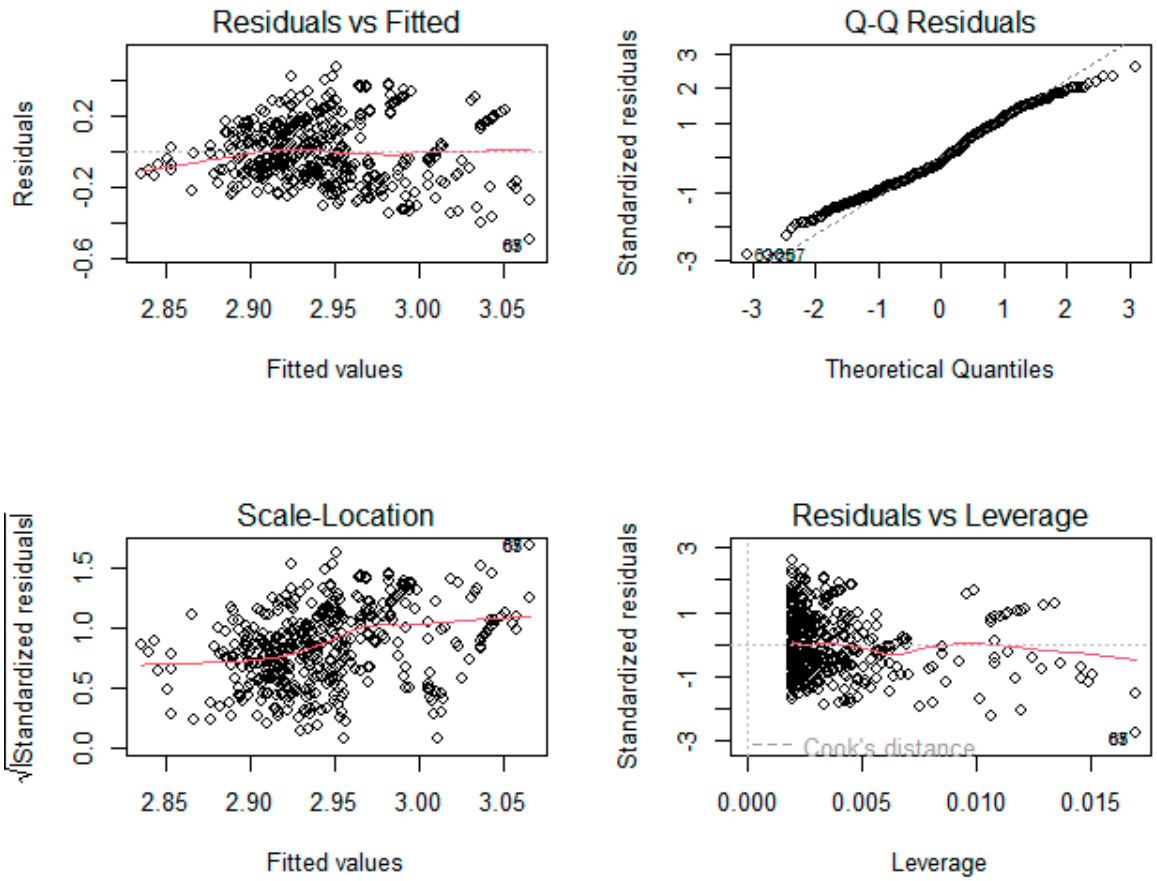


Figure S25: Diagnostic residuals plot – *log* certified energy consumption as a function of *log* certified drive range

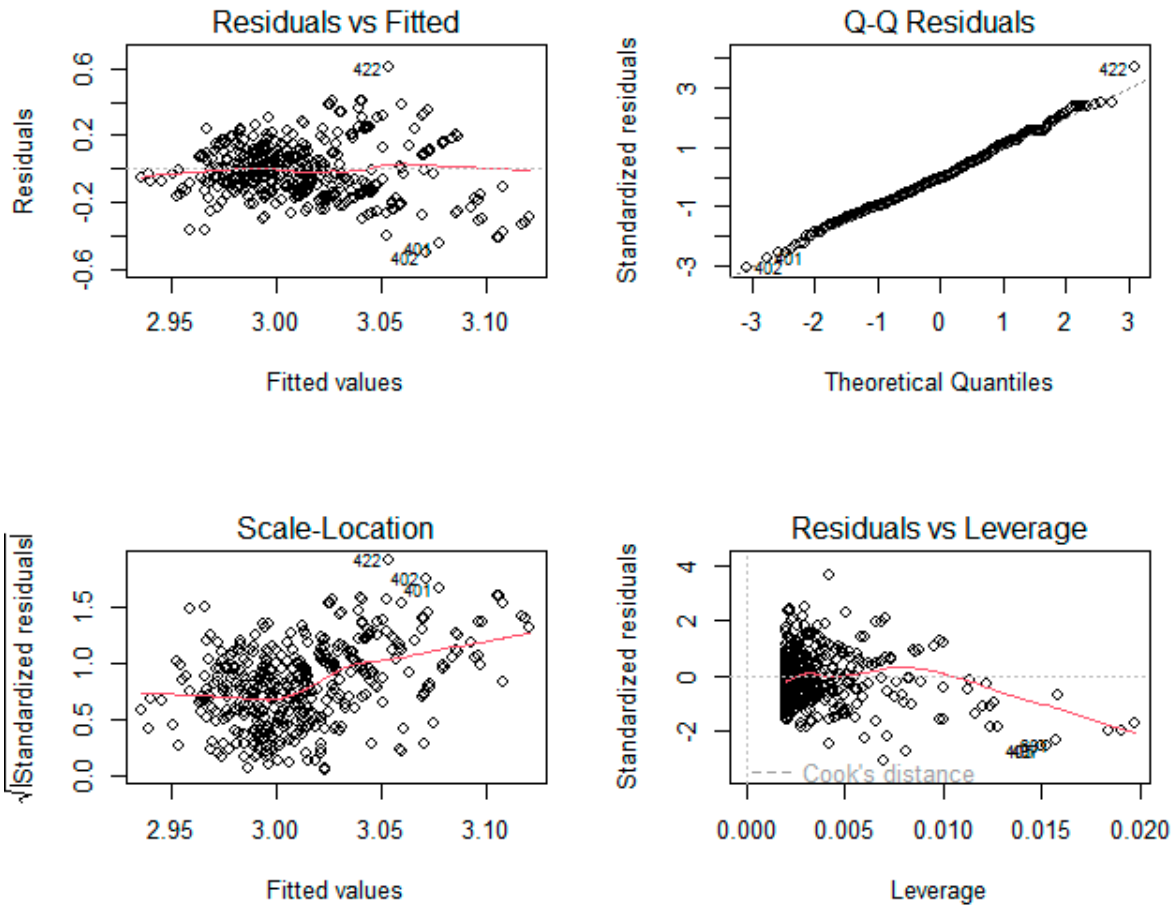


Figure S26: Diagnostic residuals plot – *log* real-world energy consumption as a function of *log* real-world drive range

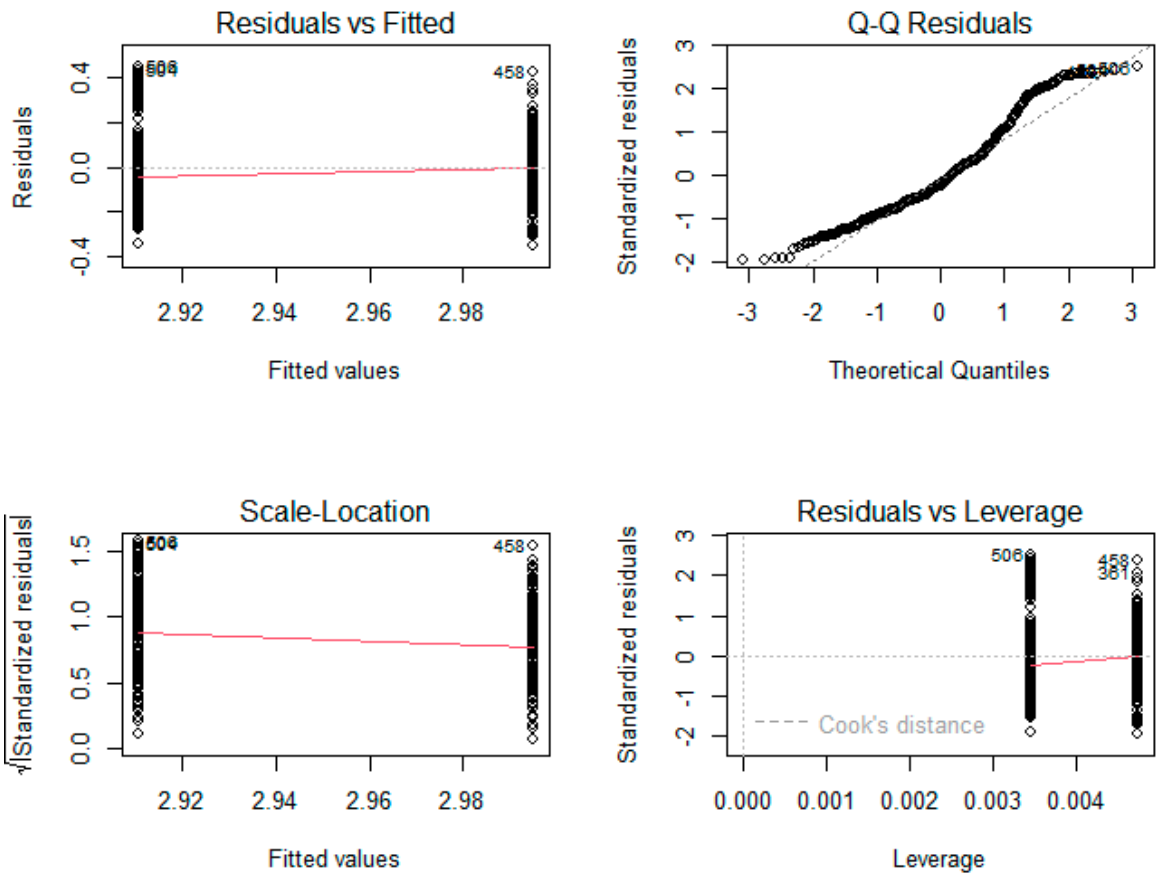


Figure S27: Diagnostic residuals plot – *log* certified energy consumption as a function of drivetrain (two-wheel versus four-wheel drive)

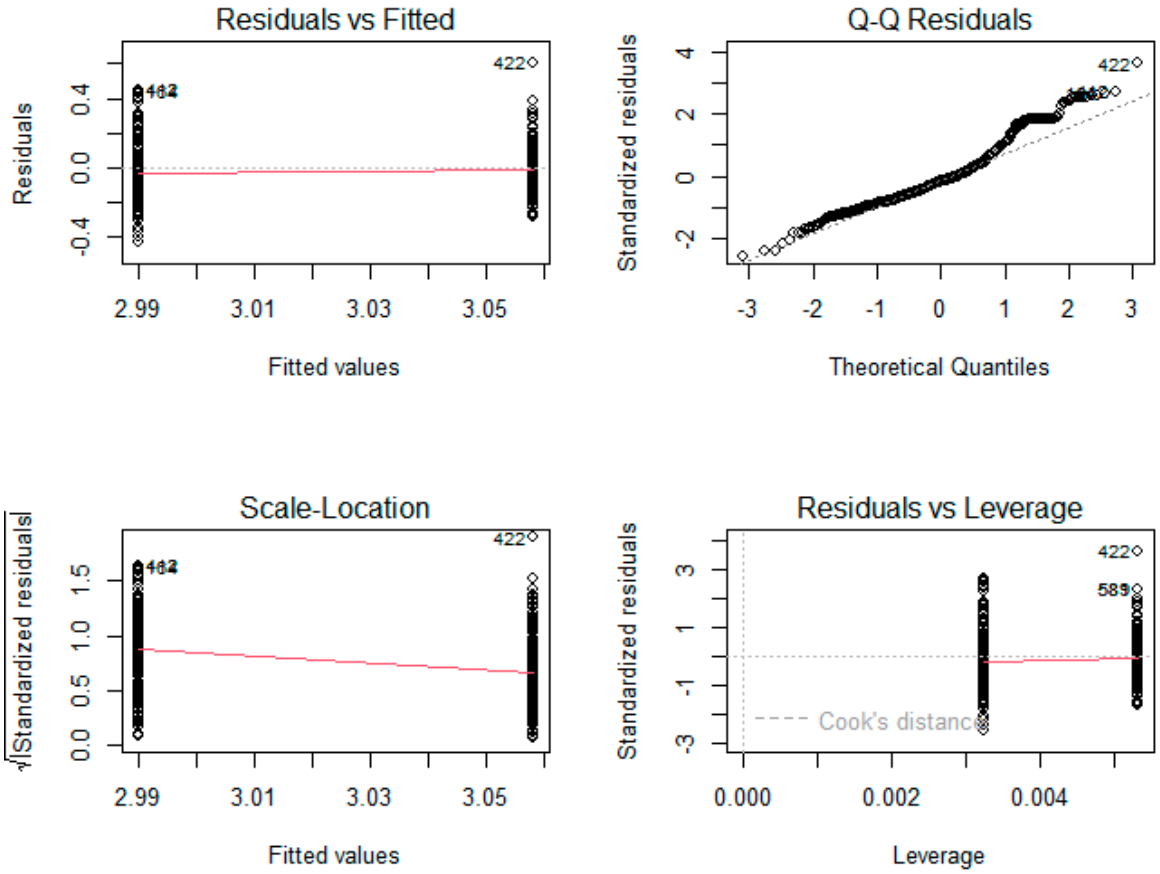


Figure S28: Diagnostic residuals plot – *log* real-world energy consumption as a function of drivetrain (two-wheel versus four-wheel drive)

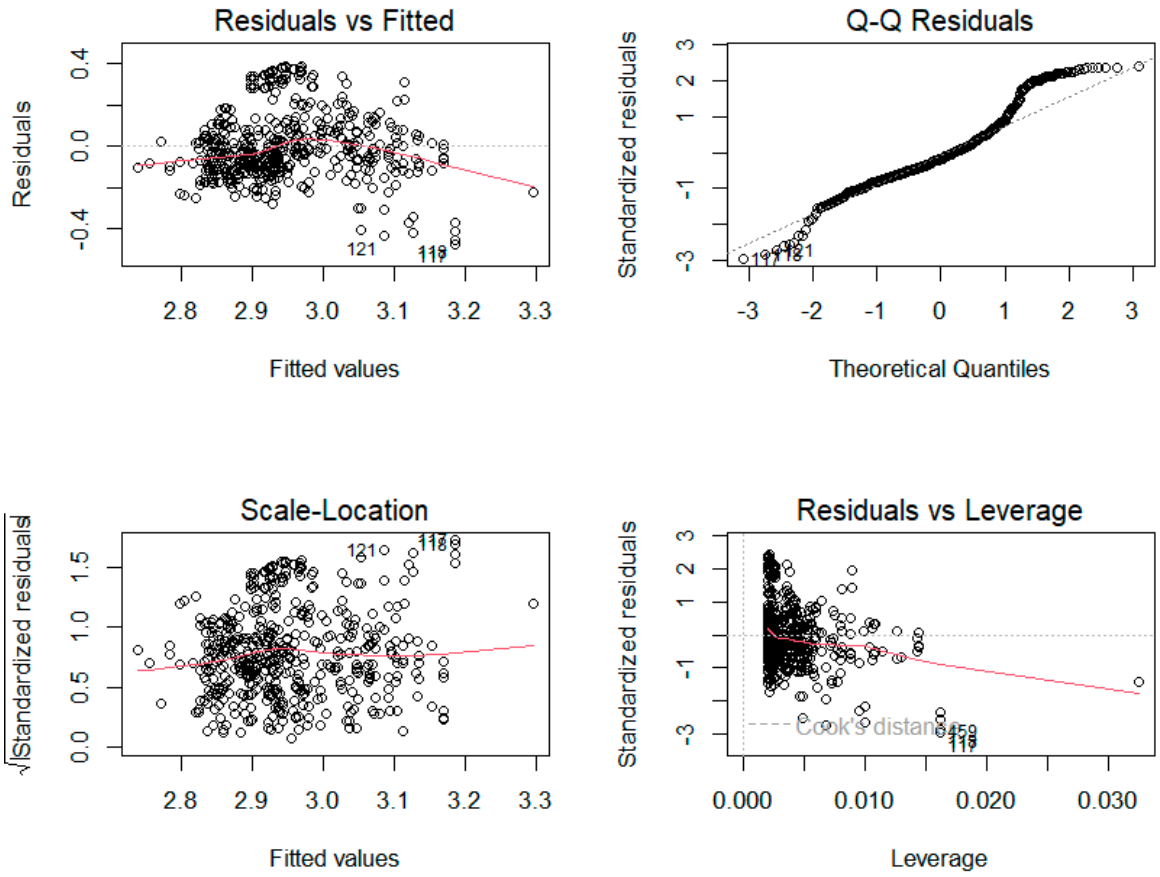


Figure S29: Diagnostic residuals plot – *log* real-world energy consumption as a function of *log* price

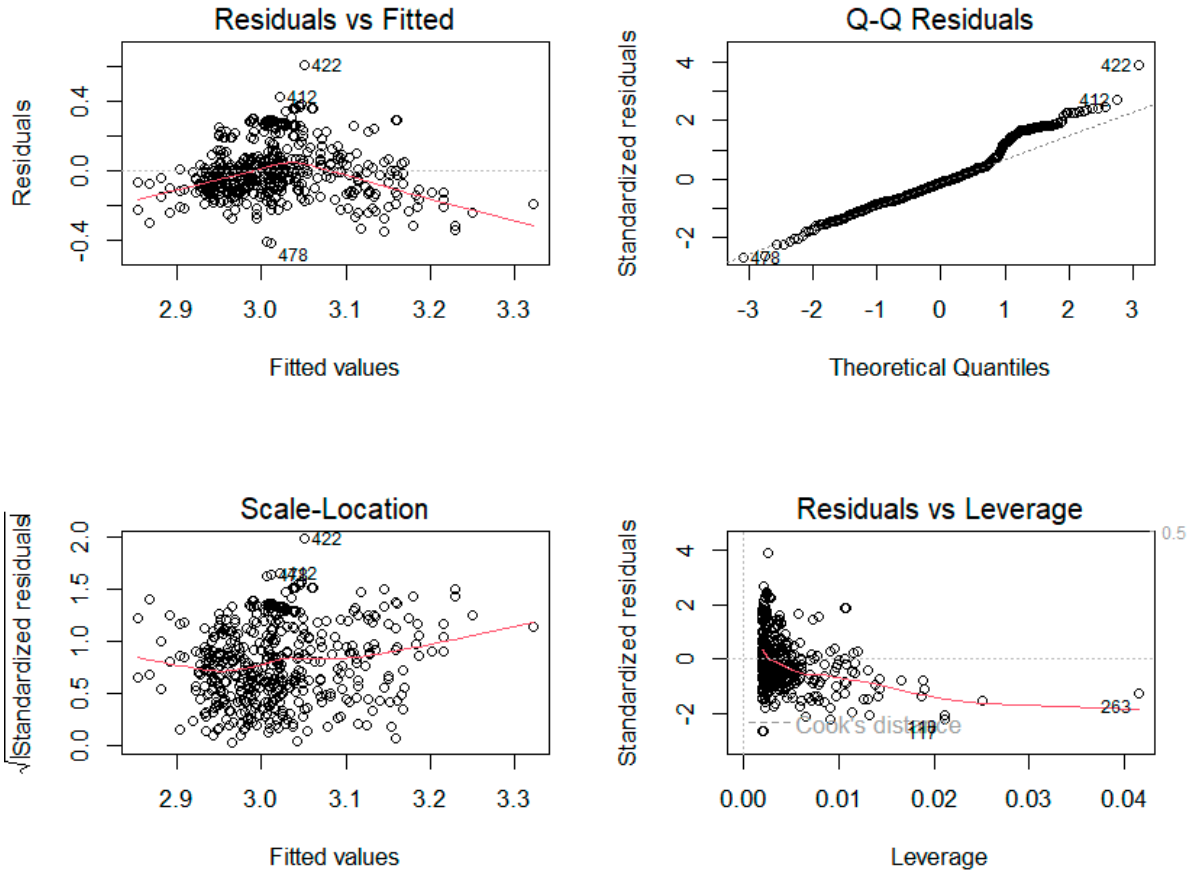


Figure S30: Diagnostic residuals plot – *log* real-world energy consumption as a function of *log* price

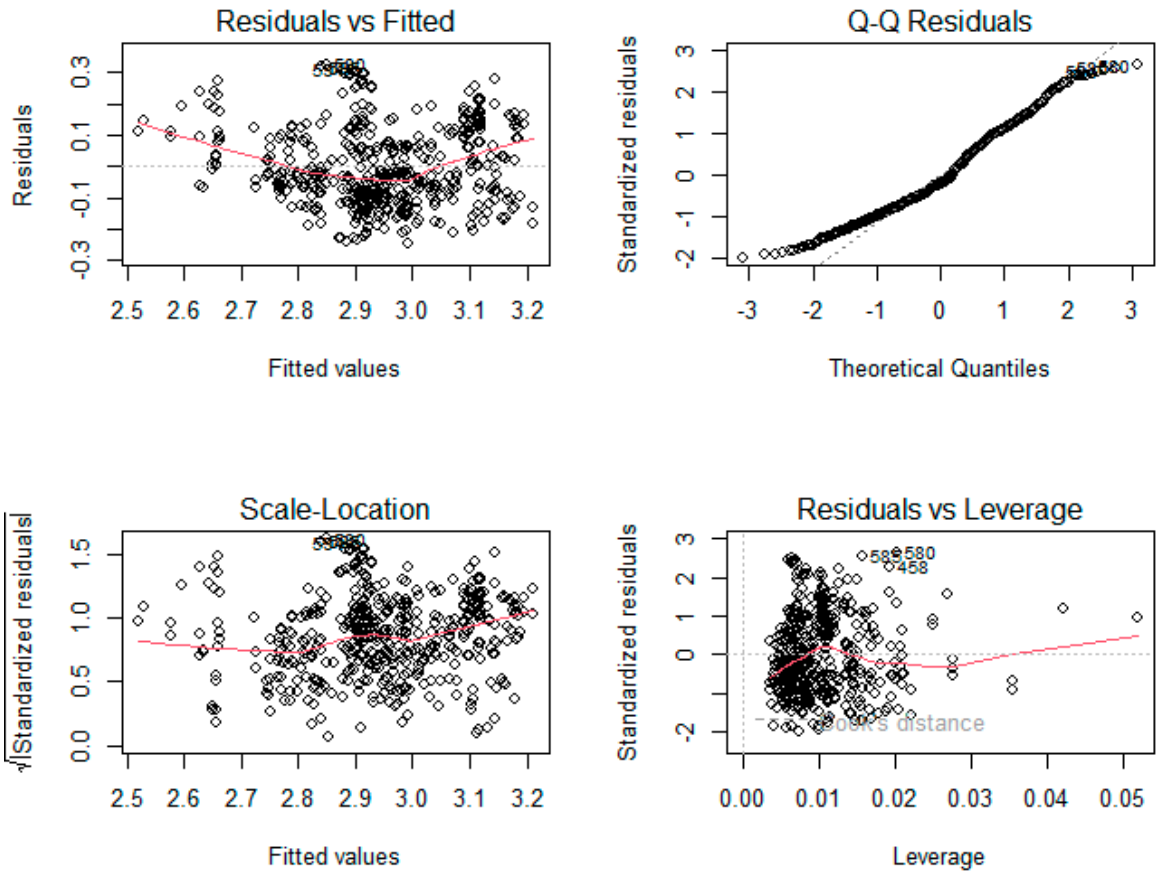


Figure S31: Diagnostic residuals plot – *log* certified energy consumption as a function of *log* vehicle mass, *log* power, *log* frontal area, and drivetrain

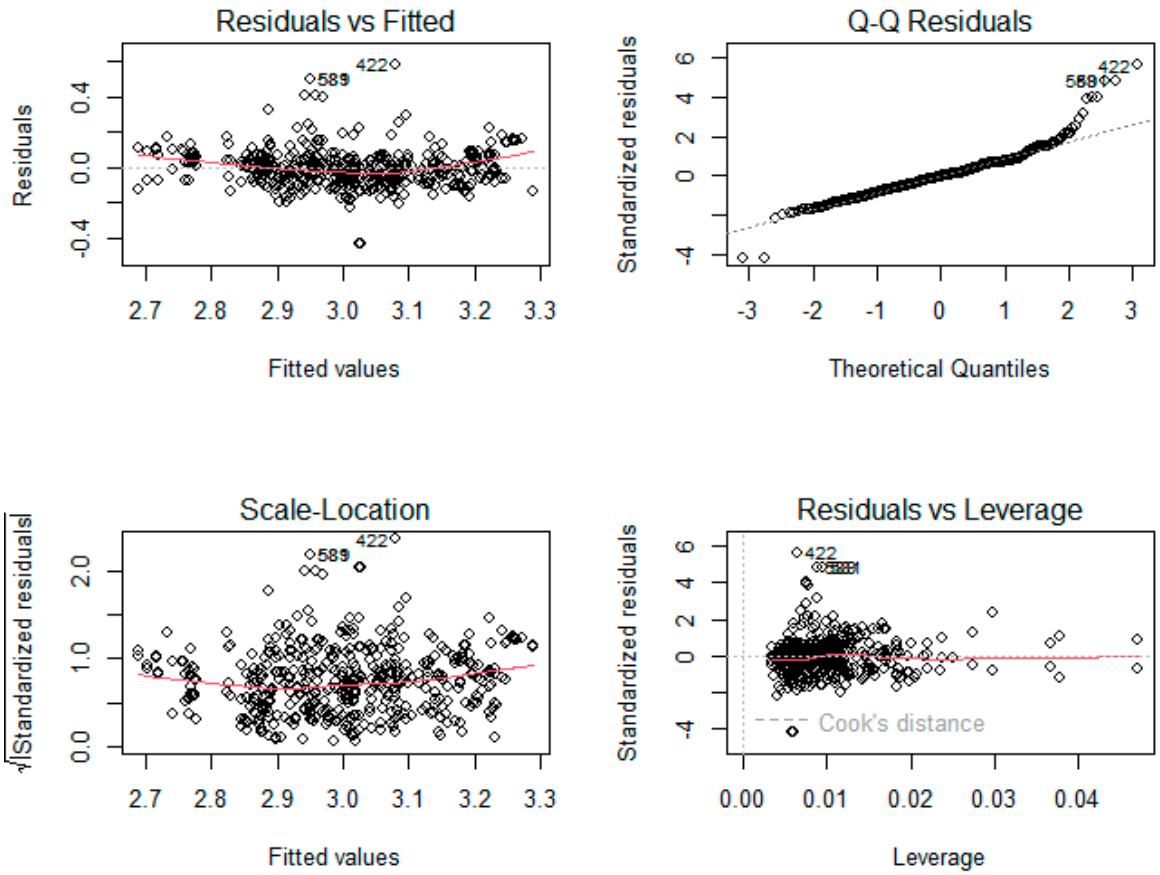


Figure S32: Diagnostic residuals plot – *log* real-world energy consumption as a function of *log* vehicle mass, *log* power, *log* frontal area, and drive train

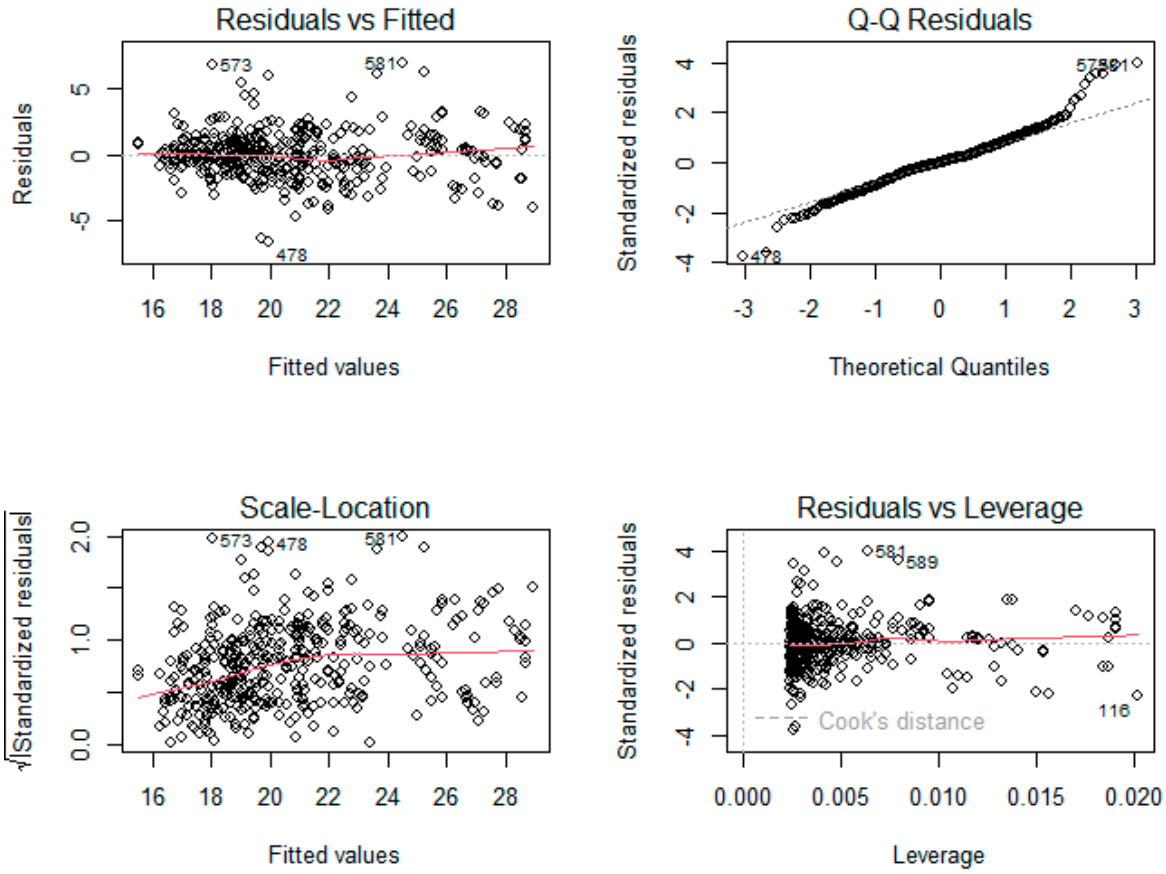


Figure S33: Diagnostic residuals plot – real-world energy consumption as a function of certified energy consumption

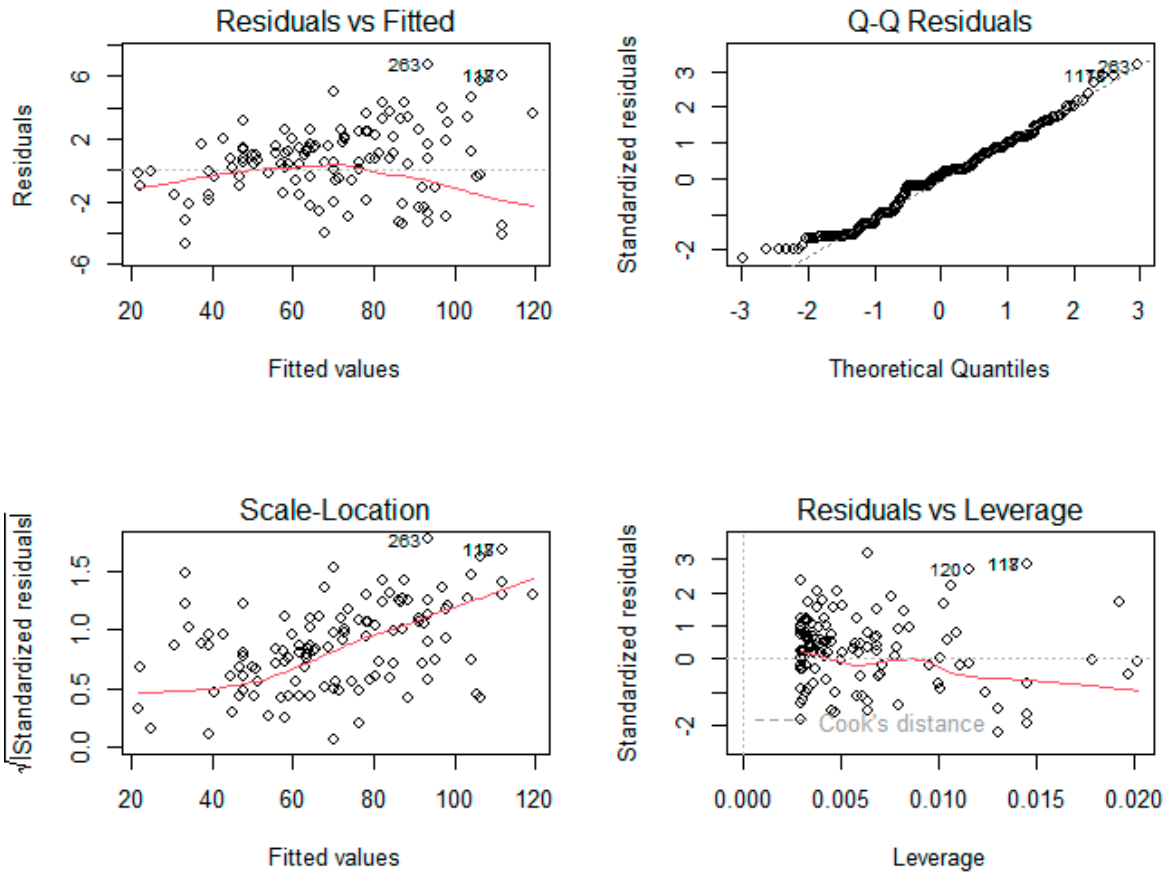


Figure S34: Diagnostic residuals plot – usable battery capacity as a function of nominal battery capacity

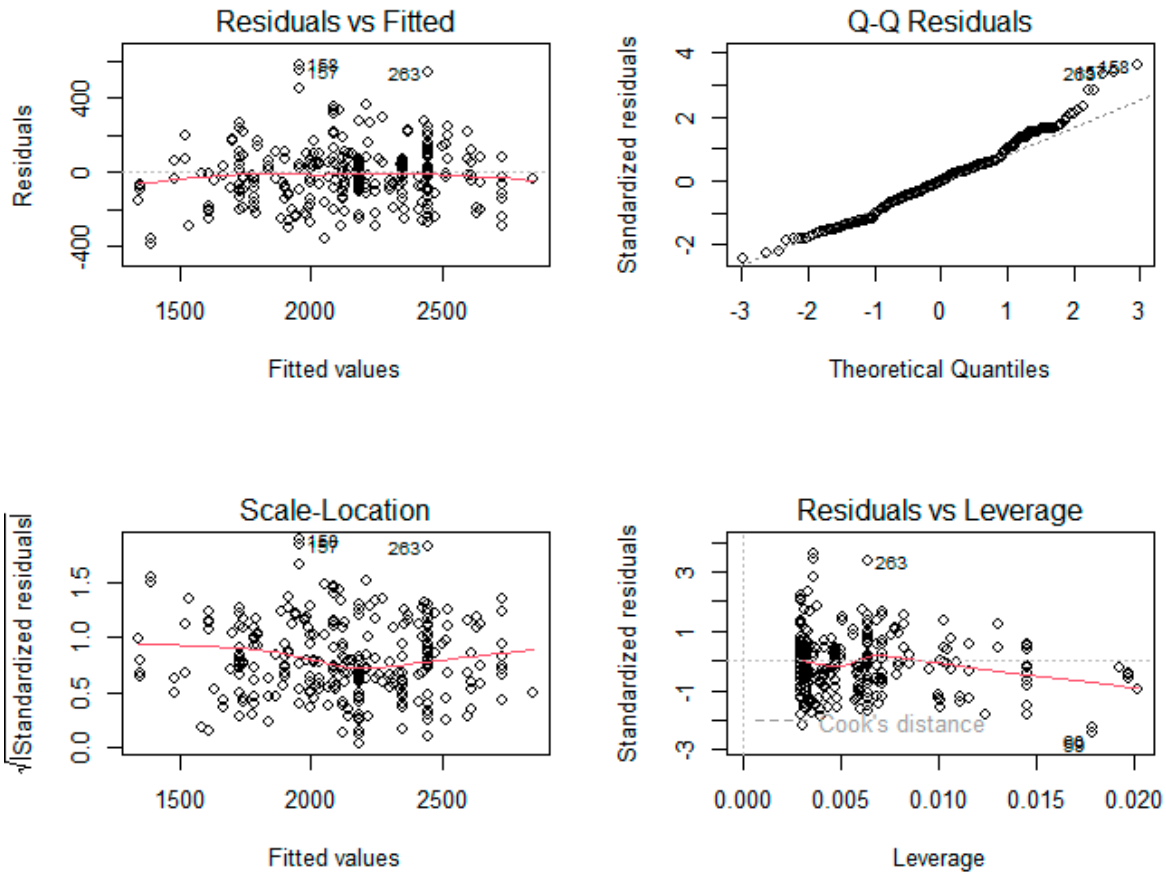


Figure S35: Diagnostic residuals plot – vehicle mass as a function of nominal battery capacity

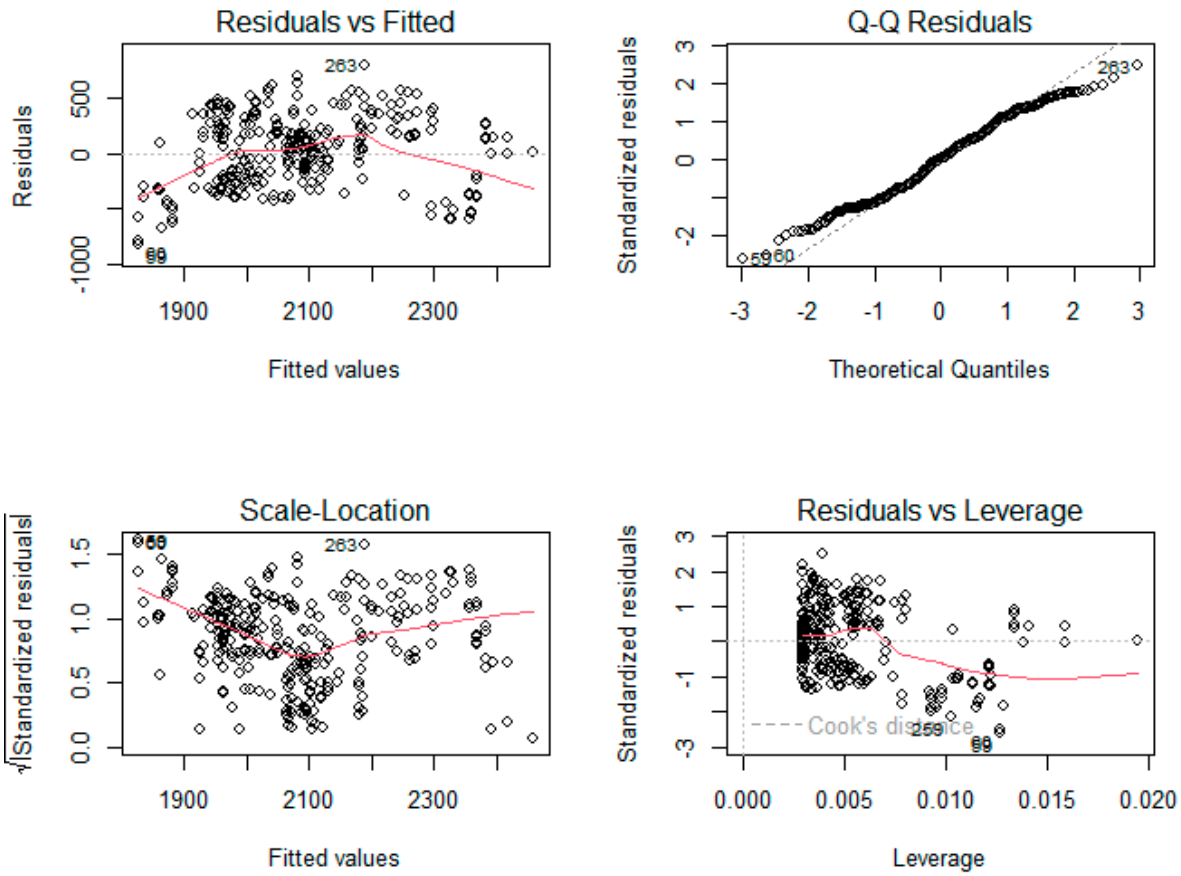


Figure S36: Diagnostic residuals plot – vehicle mass as a function of frontal area

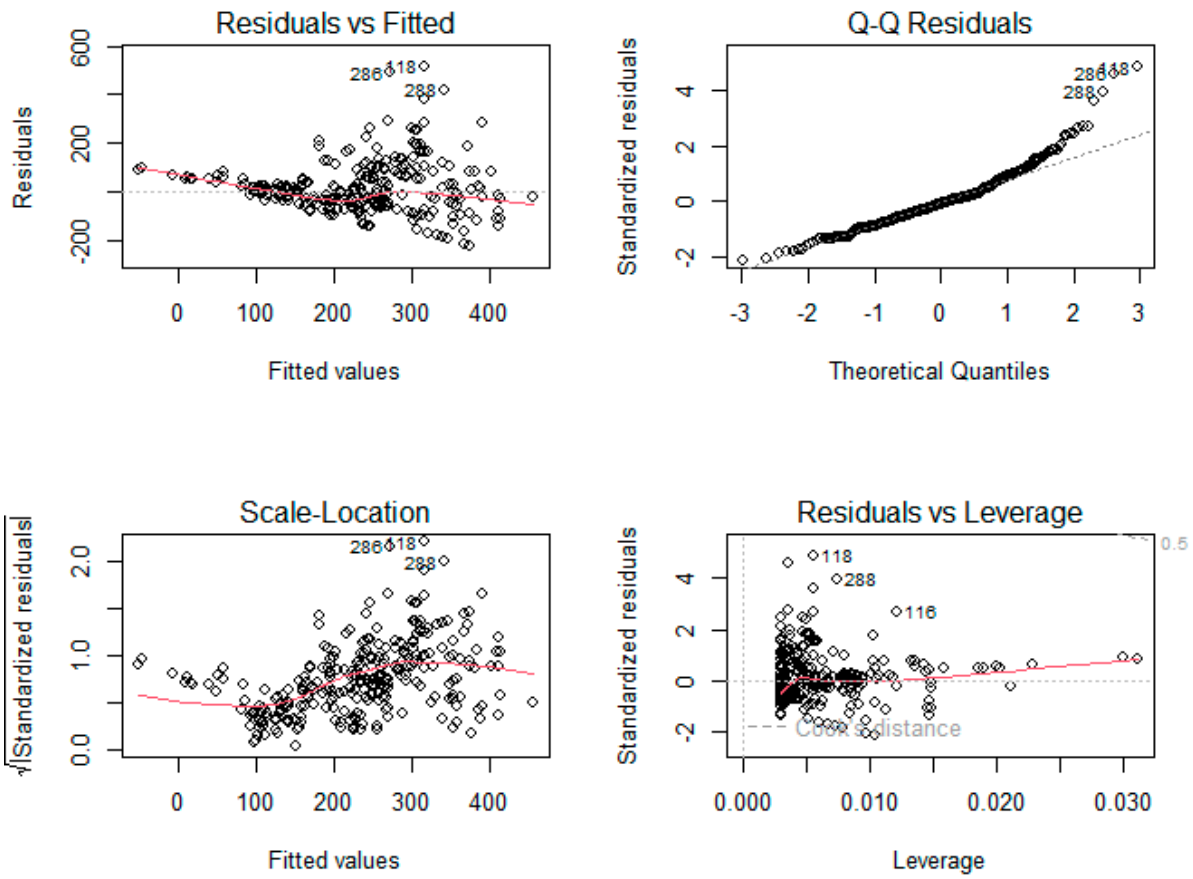


Figure S37: Diagnostic residuals plot – power as a function of vehicle mass

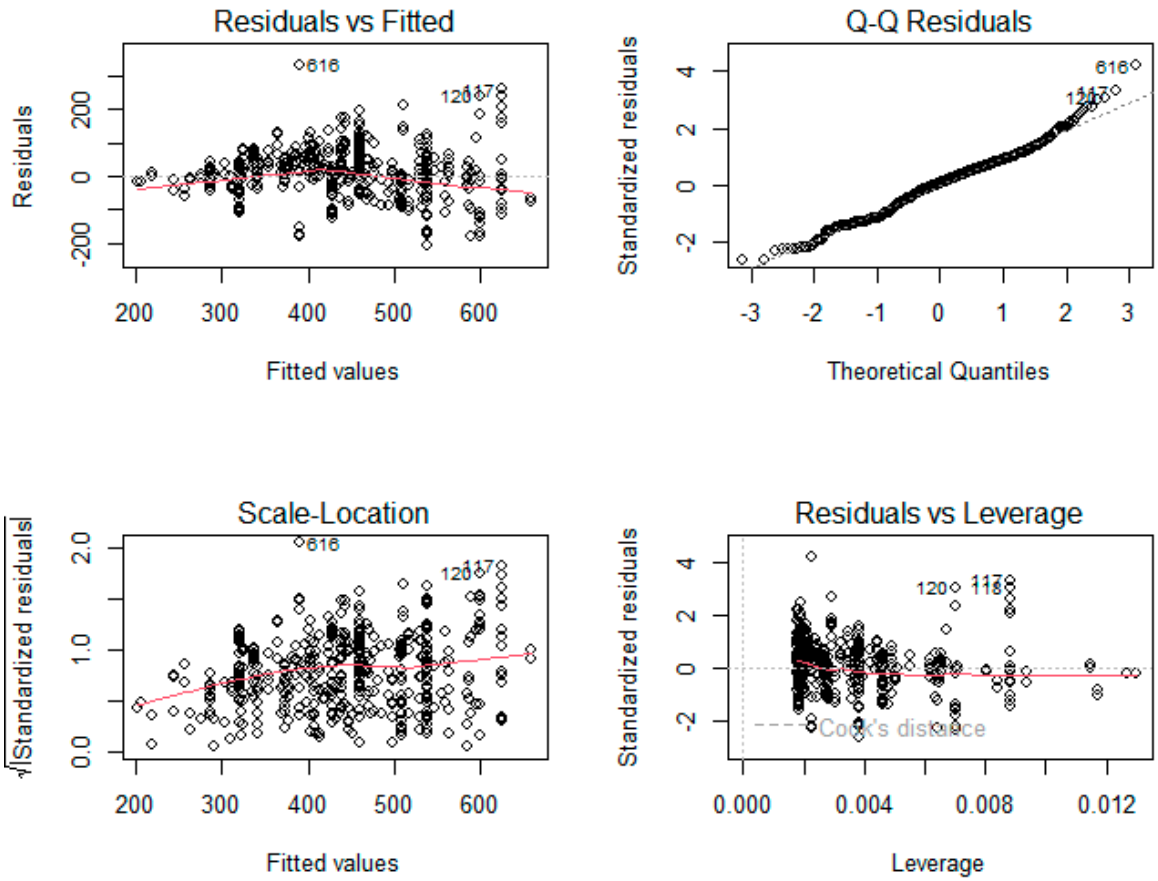


Figure S38: Diagnostic residuals plot – certified drive range as a function of nominal battery capacity

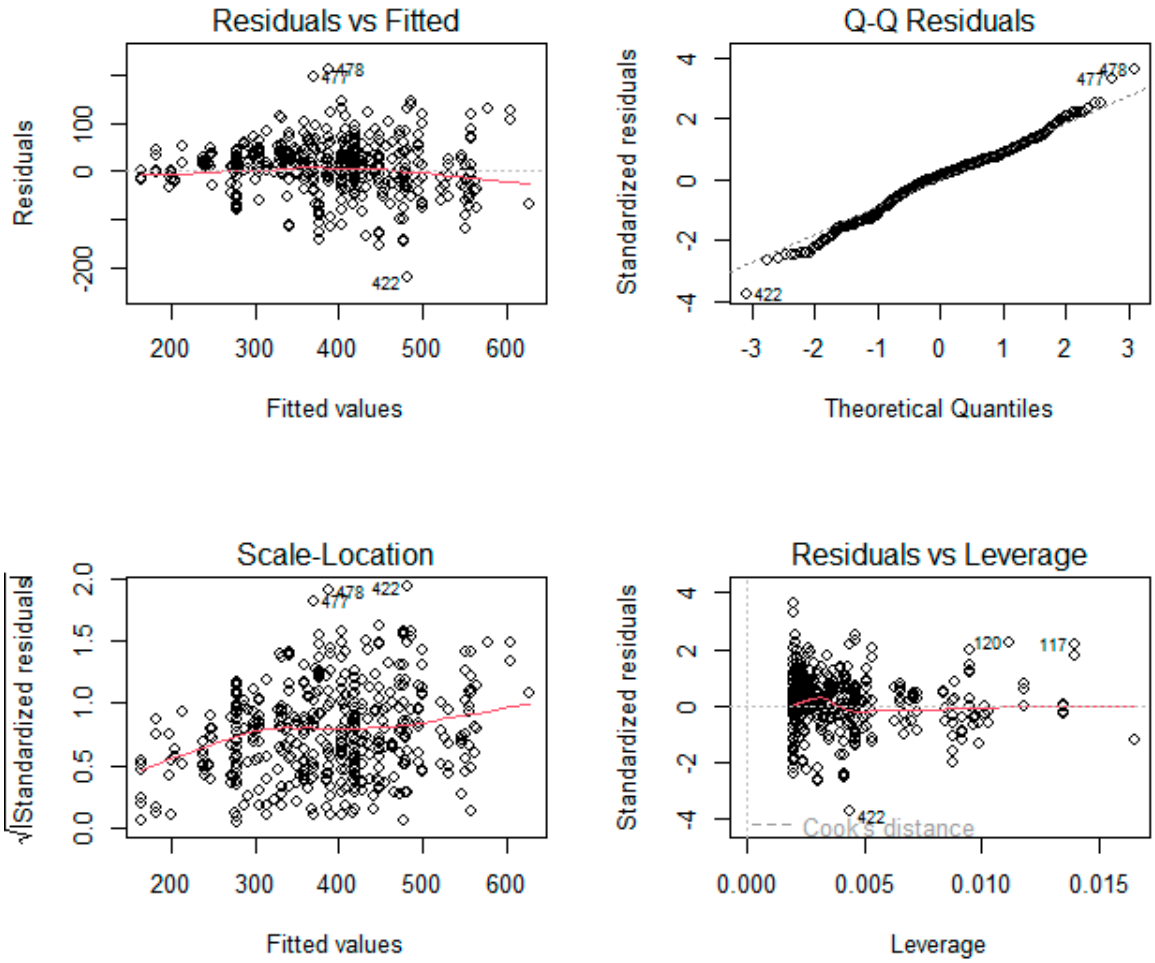


Figure S39: Diagnostic residuals plot – real-world drive range as a function of usable battery capacity

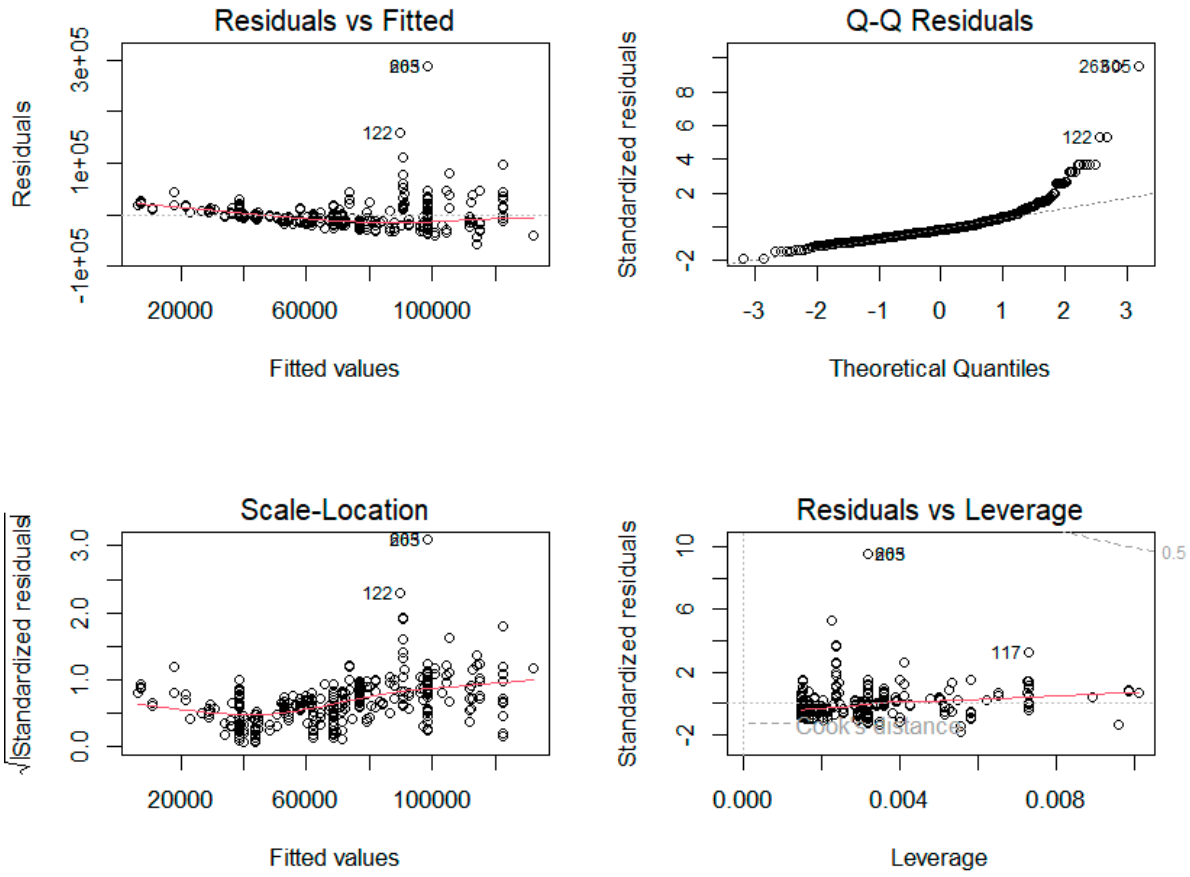


Figure S40: Diagnostic residuals plot – price as a function of nominal battery capacity

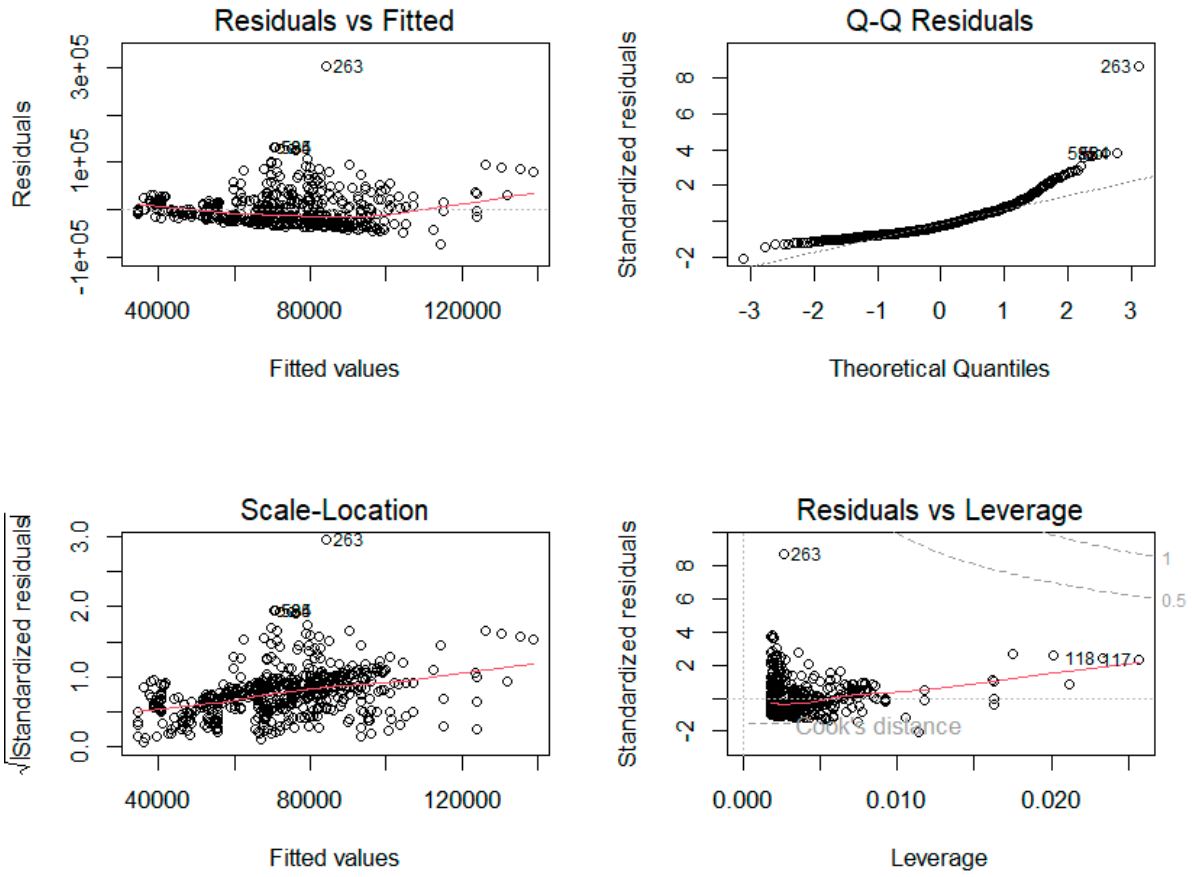


Figure S41: Diagnostic residuals plot – price as a function of certified drive range

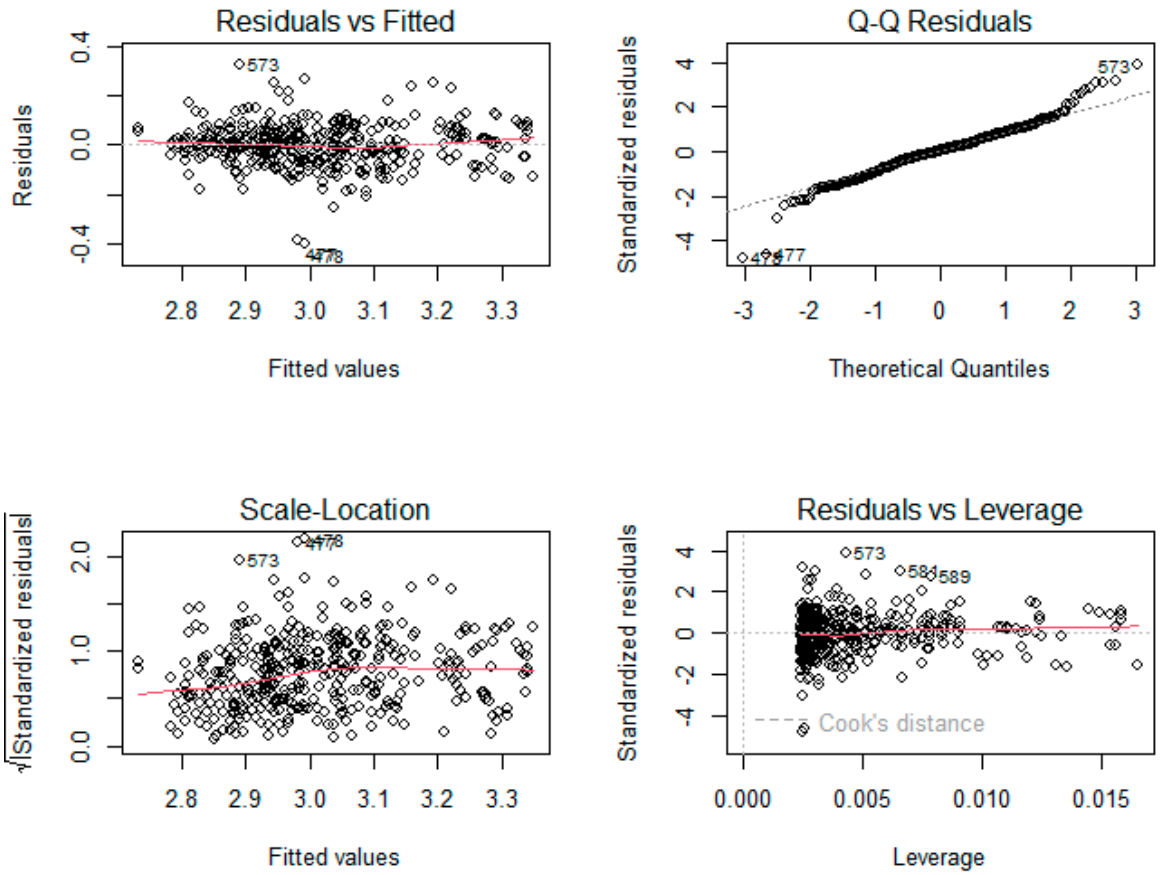


Figure S42: Diagnostic residuals plot – *log* real-world energy consumption as a function of *log* certified energy consumption

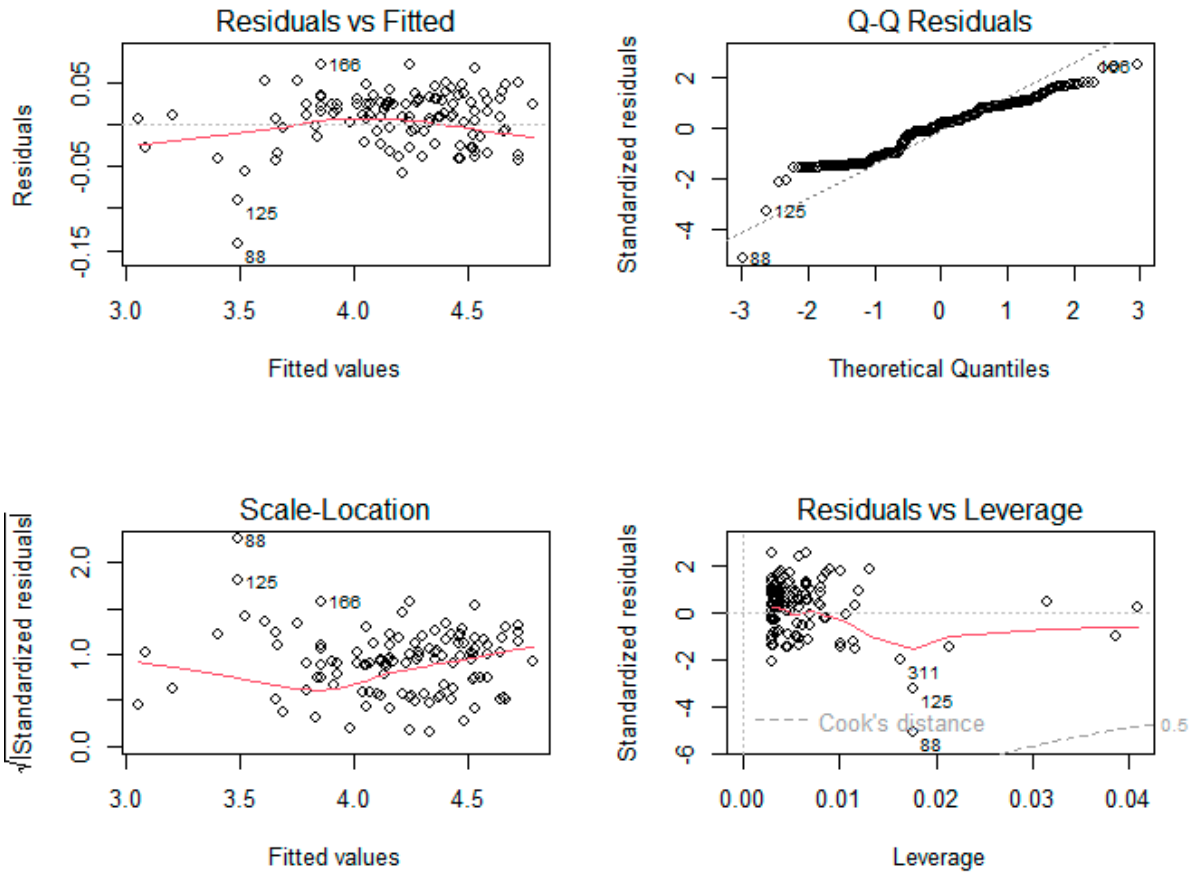


Figure S43: Diagnostic residuals plot – *log* usable battery capacity as a function of *log* nominal battery capacity

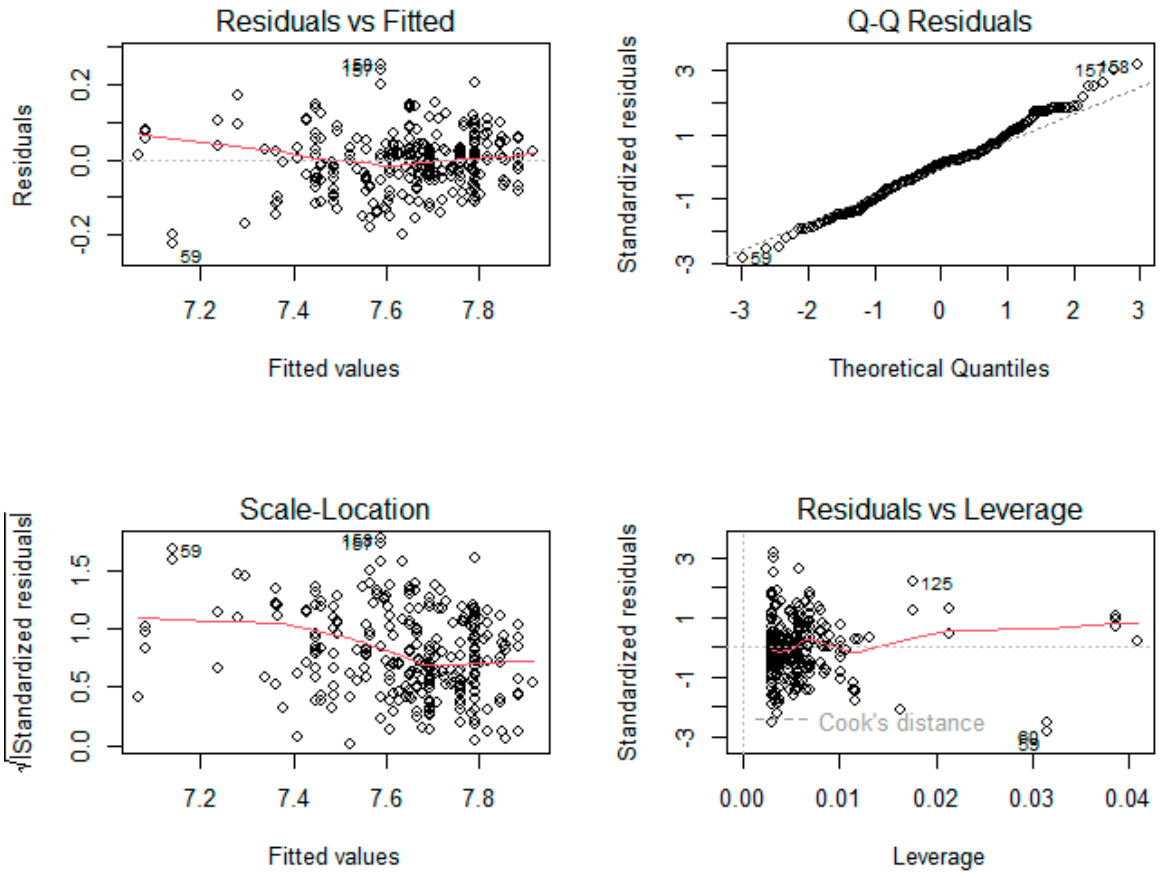


Figure S44: Diagnostic residuals plot – *log* vehicle mass as a function of *log* nominal battery capacity

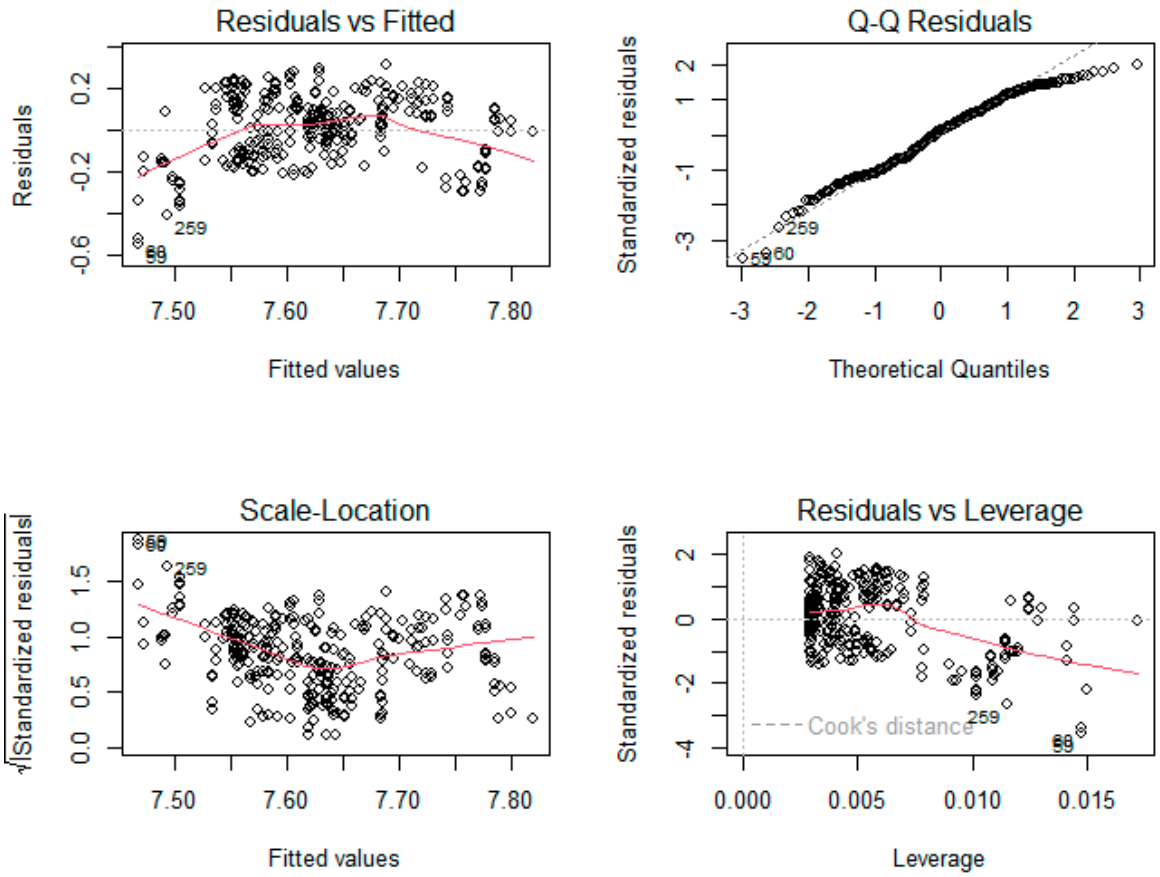


Figure S45: Diagnostic residuals plot – *log* vehicle mass as a function of *log* frontal area

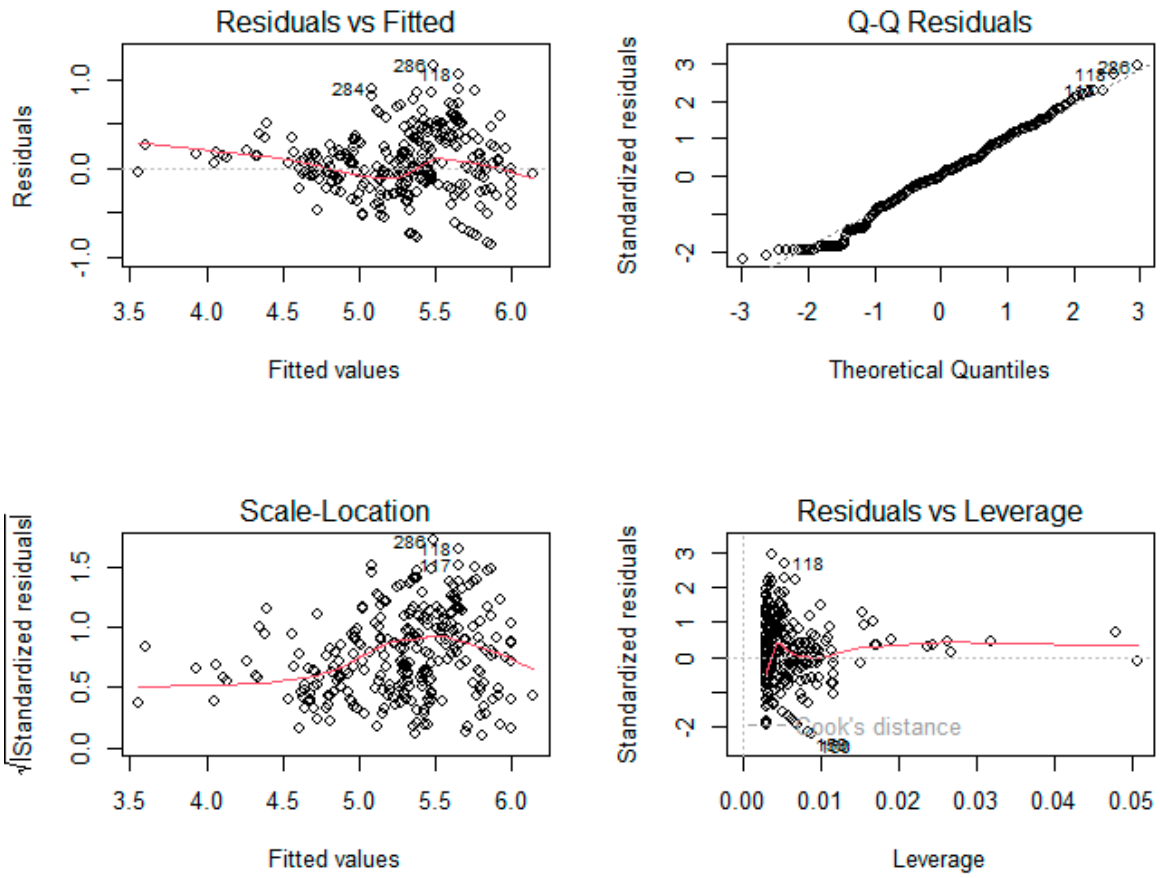


Figure S46: Diagnostic residuals plot – *log* power as a function of *log* vehicle mass

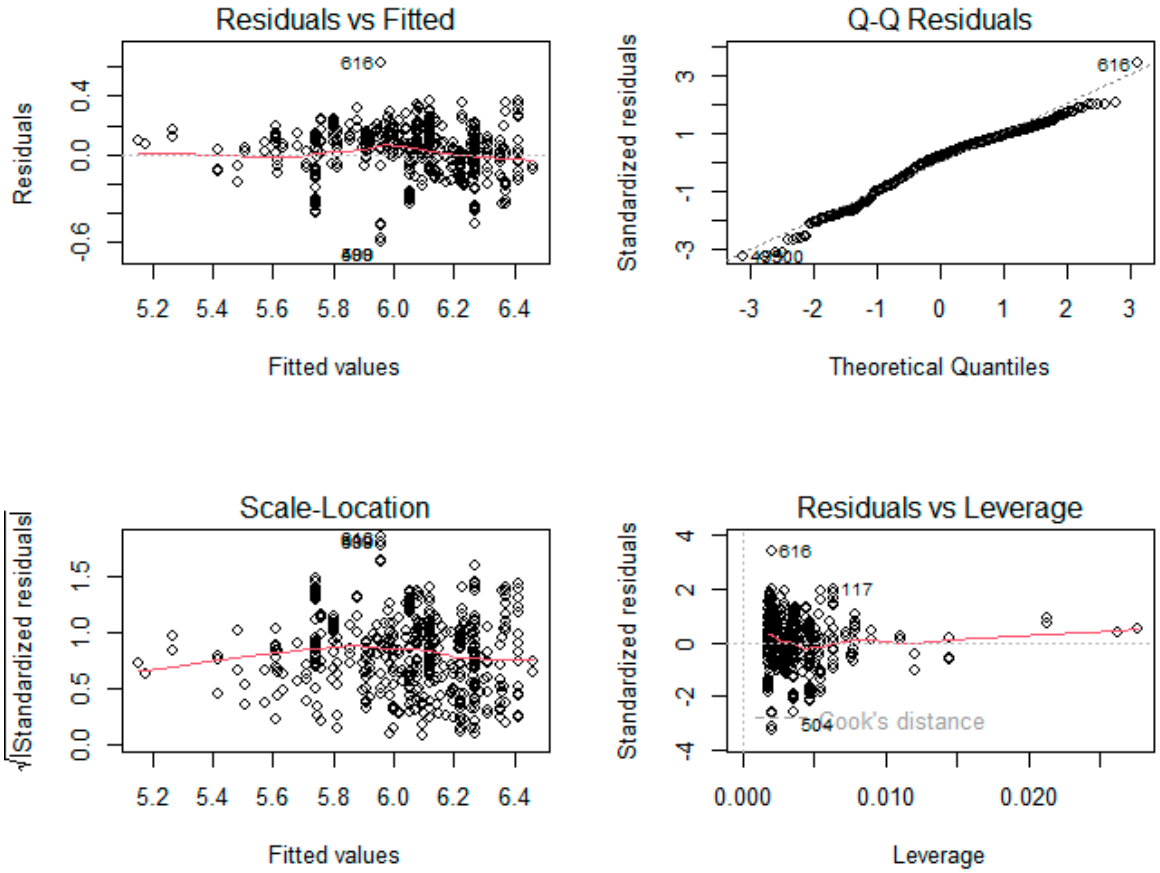


Figure S47: Diagnostic residuals plot – *log* certified drive range as a function of *log* nominal battery capacity

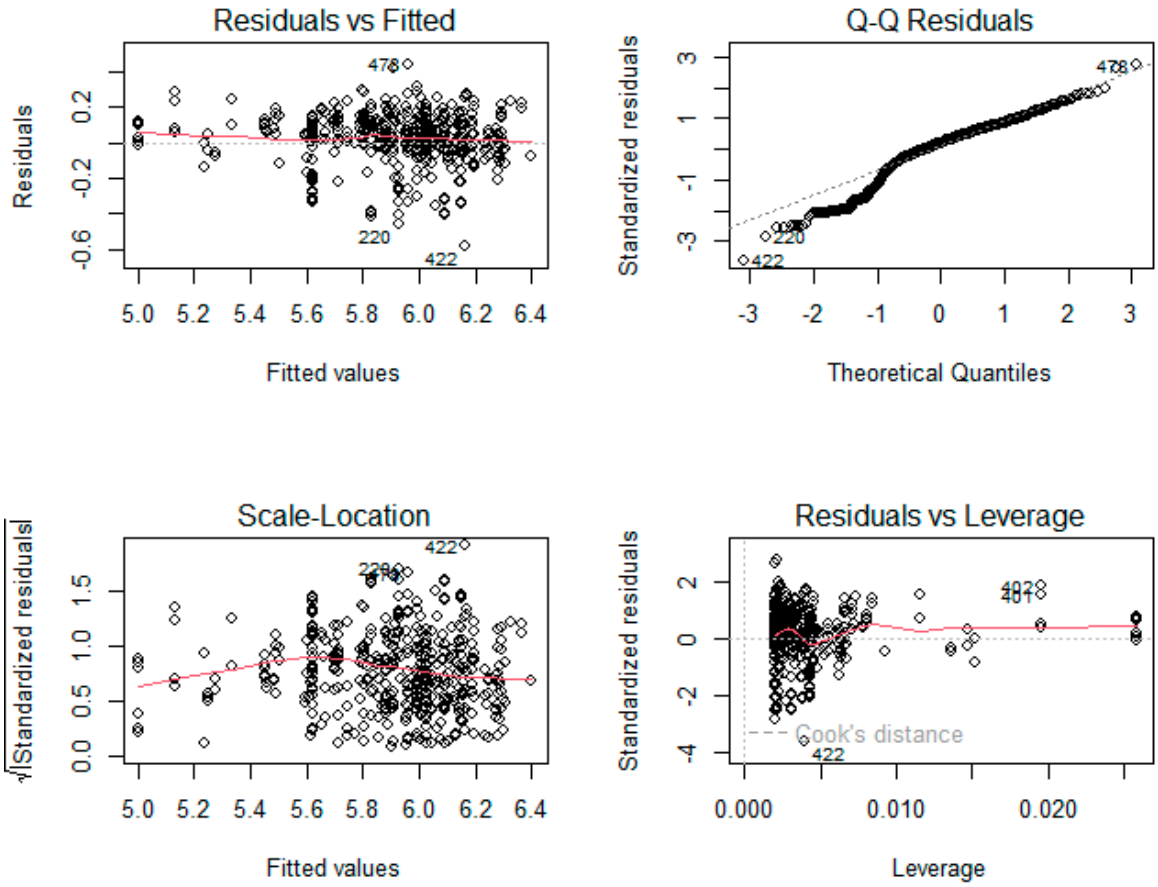


Figure S48: Diagnostic residuals plot – *log* real-world drive range as a function of *log* usable battery capacity

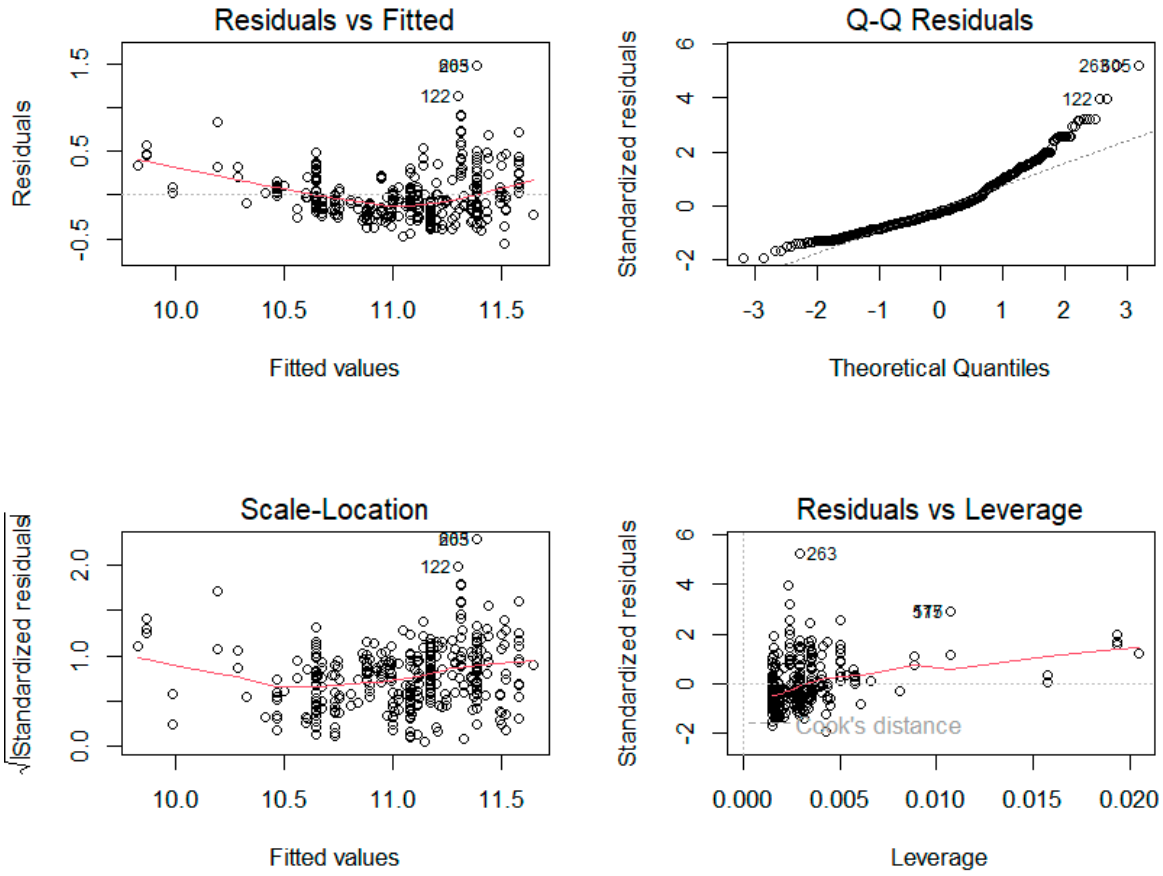


Figure S49: Diagnostic residuals plot – *log* price as a function of *log* nominal battery capacity

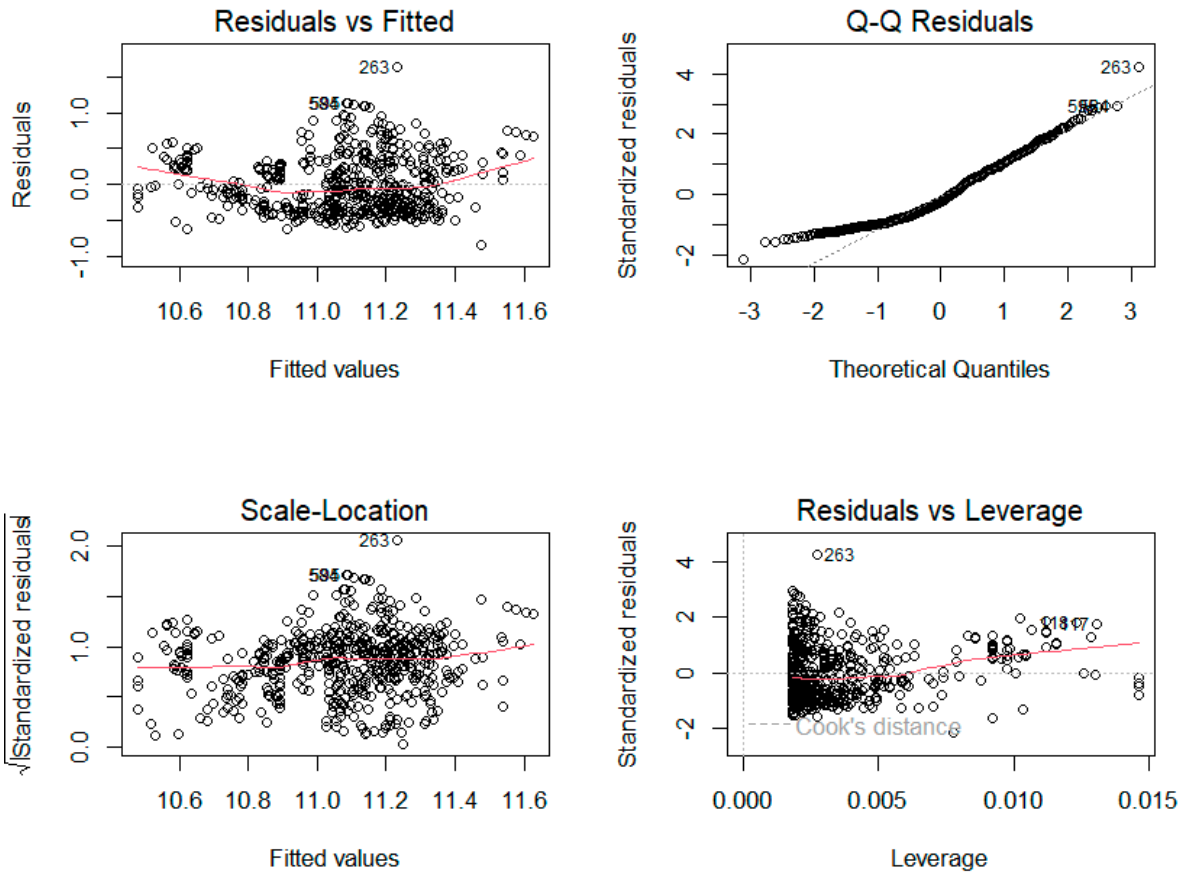


Figure S50: Diagnostic residuals plot – *log* price as a function of *log* certified drive range