The given figure from the paper is as follows:
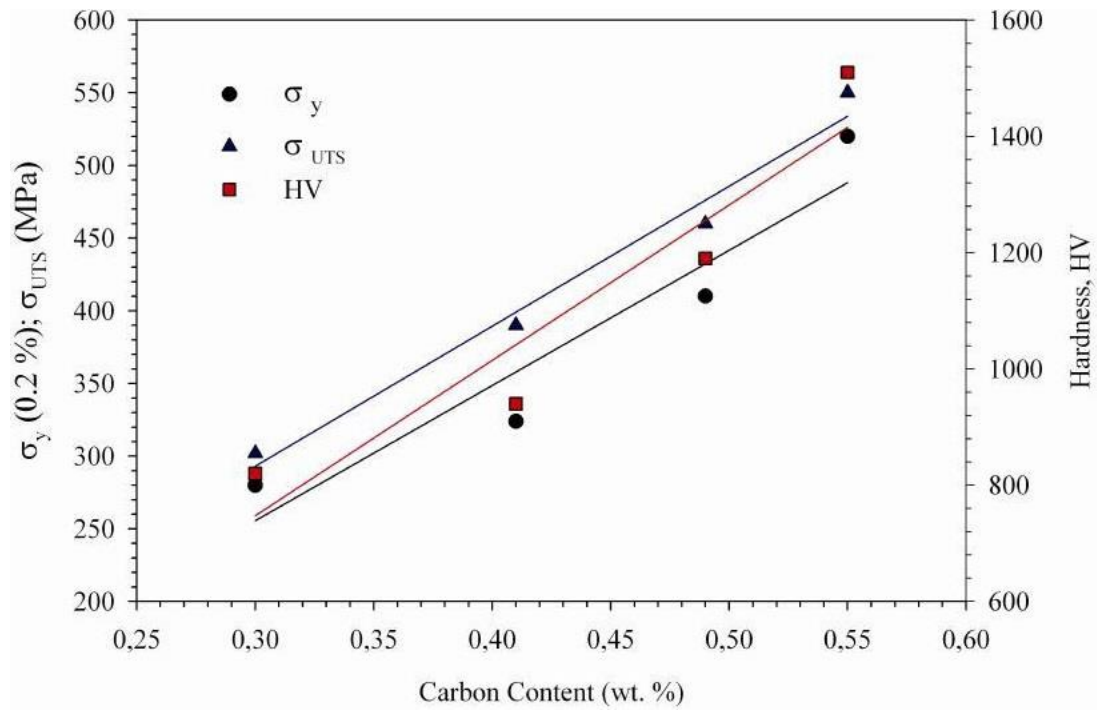

Figure 1: The experimental figure taken from the paper.

The data extracted from the above figure is tabulated below:

S.No	Carbon (wt%)	σ$_y$ (MPa)	σ$_{UTS}$ (MPa)	Hardness (HV)
1.	0.30	280	302.069	818.391
2.	0.41	324.138	390.345	937.931
3.	0.49	410.575	461.149	1190.8
4.	0.55	520.92	550.345	1510.34

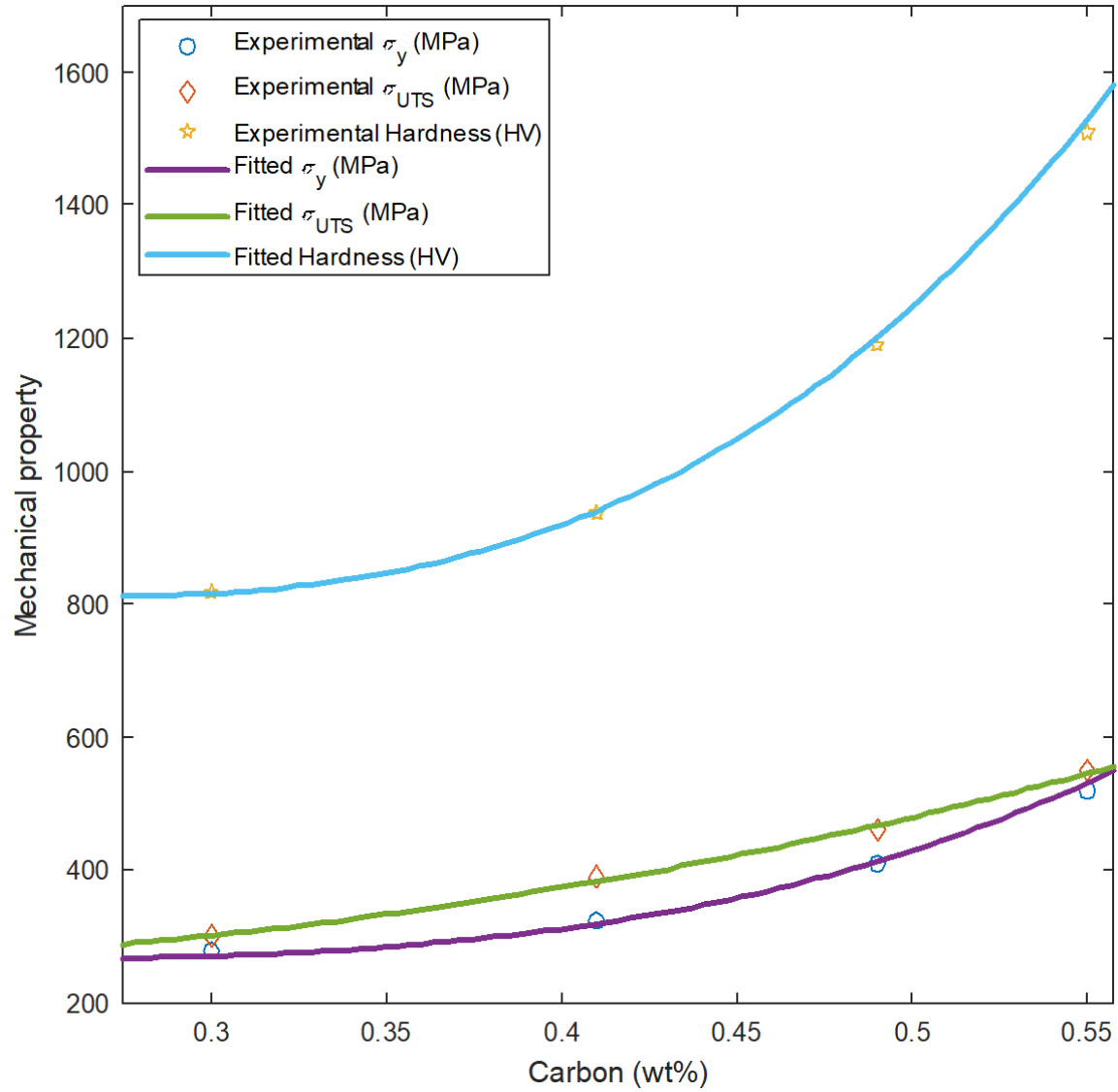The above data is replotted, and the curve is fitted using MATLAB software as shown below.

Figure 2: The replotted and fitted figure.

The equation of the fitted curves are as follows:

- For Carbon (x) Vs $\sigma_y(y)$ curve:

$$y = 7.4 \times 10^3\, x^3 - 5.3 \times 10^3\, x^2 + 1.3 \times 10^3\, x + 1.5 \times 10^2$$

- For Carbon (x) Vs $\sigma_{UTS}(y)$ curve:

$$y = 1.7 \times 10^3\, x^2 - 4.7 \times 10^2\, x + 2.9 \times 10^2$$

- For Carbon Vs Hardness curve:

$$y = 1.8 \times 10^4\, x^3 - 1.1 \times 10^4\, x^2 + 1.9 \times 10^3\, x + 7.4 \times 10^2$$