

# **Comparative Evaluation of the Powder and Tableting Properties of Regular and Direct Compression Hypromellose from Different Vendors**

**Nihad Mawla<sup>1</sup>, Maen Alshafiee<sup>1</sup>, John Gamble<sup>2</sup>, Mike Tobyn<sup>2</sup>, Lande Liu<sup>3</sup>, Karl Walton<sup>4</sup>, Barbara R. Conway<sup>1</sup>, Peter Timmins<sup>1,\*</sup> and Kofi Asare-Addo<sup>1,\*</sup>**

<sup>1</sup> Department of Pharmacy, University of Huddersfield, Huddersfield HD1 3DH, UK; nihad.mawla@hud.ac.uk (N.M.); maen.pharm@gmail.com (M.A.); b.r.conway@hud.ac.uk (B.R.C.)

<sup>2</sup> Drug Product Development, Bristol Myers Squibb, Moreton, Merseyside CH46 1QW, UK; john.gamble@bms.com (J.G.); mike.tobyn@bms.com (M.T.)

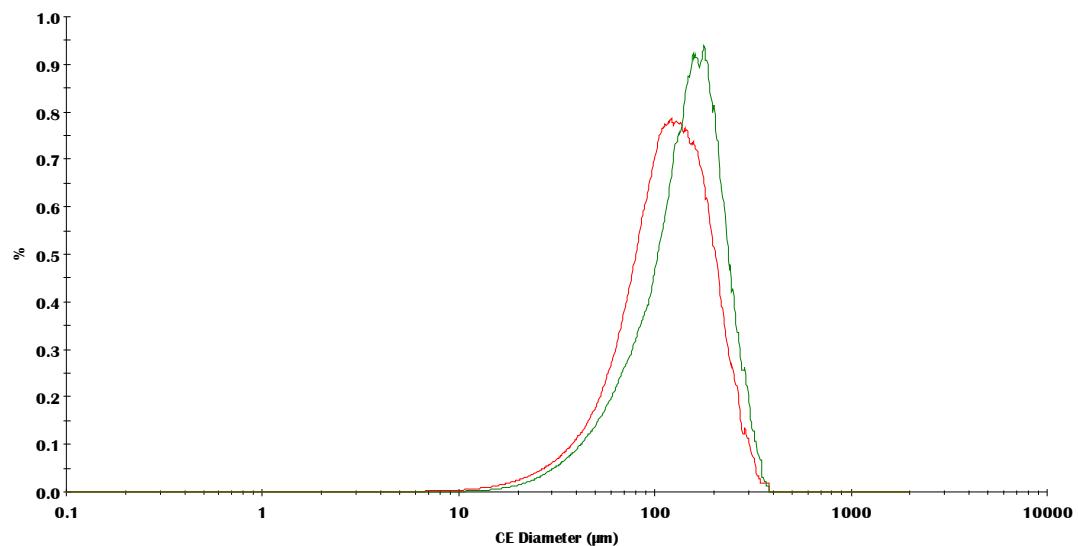
<sup>3</sup> Department of Chemical Sciences, University of Huddersfield, Huddersfield HD1 3DH, UK; l.liu@hud.ac.uk

<sup>4</sup> EPSRC Future Metrology Hub, University of Huddersfield, Huddersfield HD1 3DH, UK; k.walton@hud.ac.uk

\* Correspondence: p.timmins@hud.ac.uk (P.T.); k.asare-addo@hud.ac.uk (K.A.-A.)

## **Supplementary information**

### Geometric size



### Arithmetic size

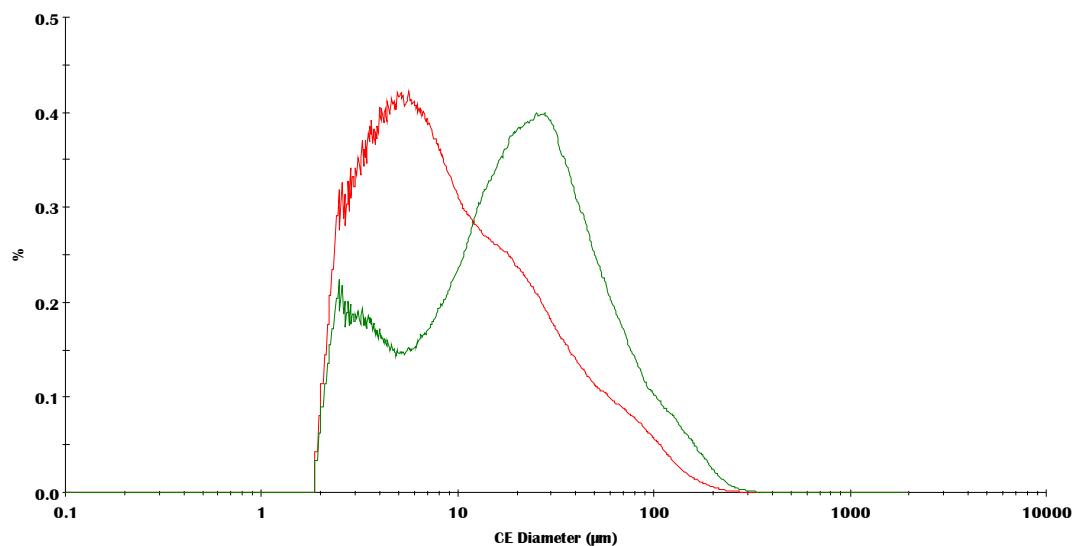
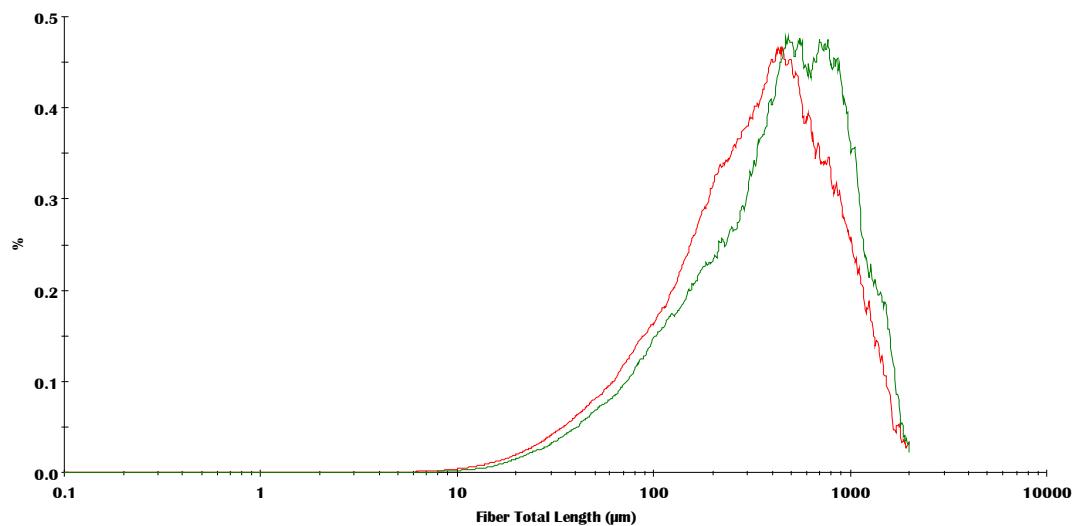
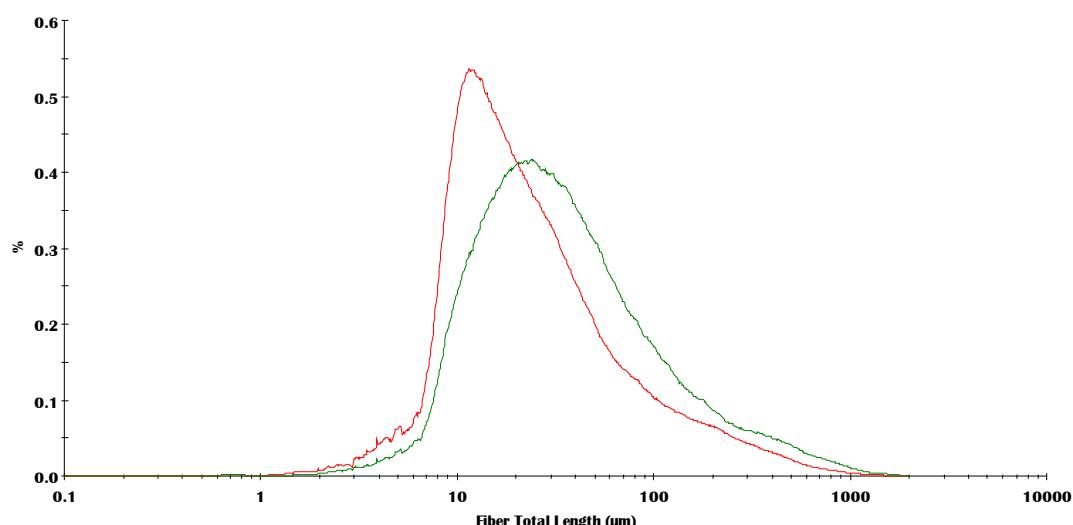


Figure S1. Volume weighted and arithmetically weighted size, fibre length and width of Methocel CR (red) and DC (green) grades of HPMC.

### Geometric fibre length

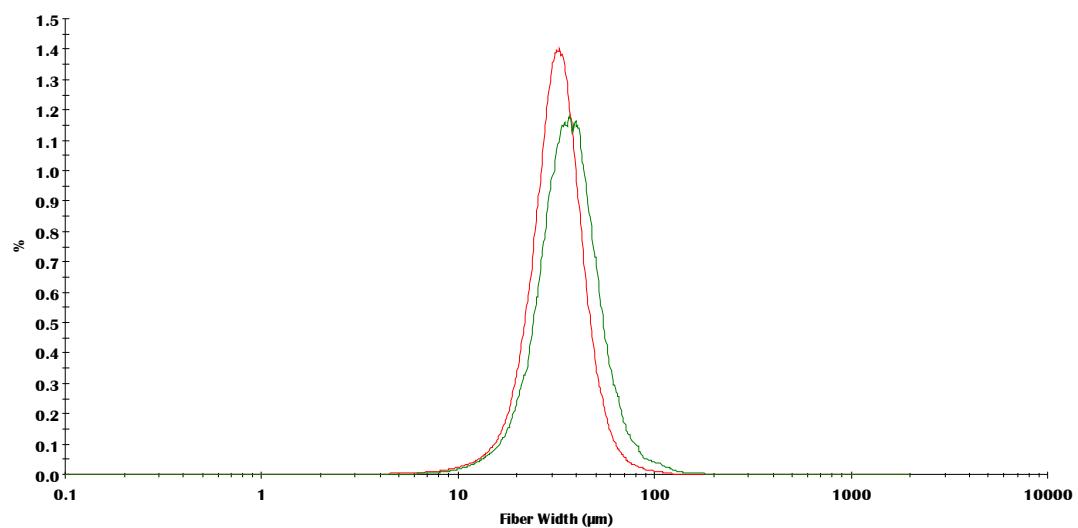


### Arithmetic fibre length

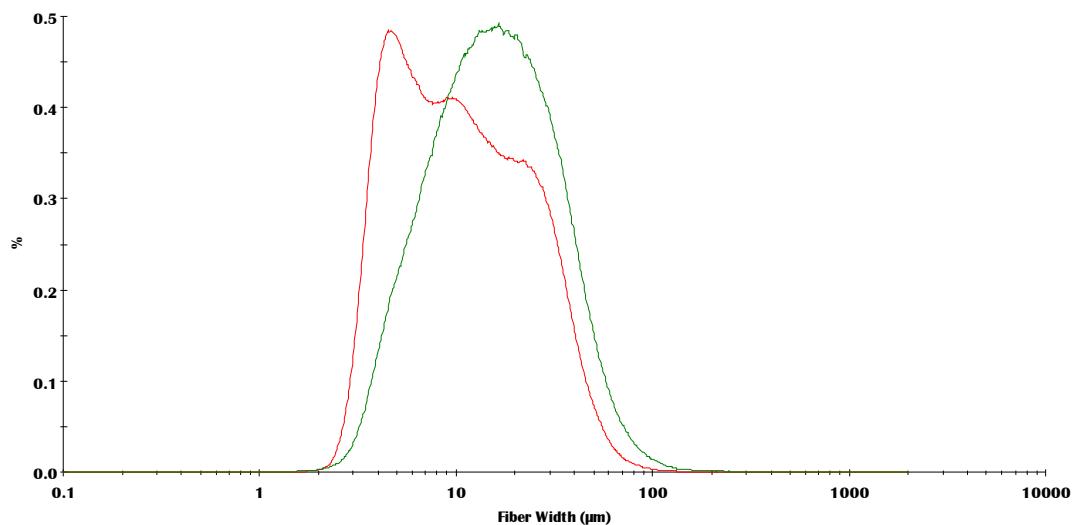


**Figure S1 (continued).** Volume weighted and arithmetically weighted size, fibre length and width of Methocel CR (red) and DC (green) grades of HPMC.

### Geometric fibre width

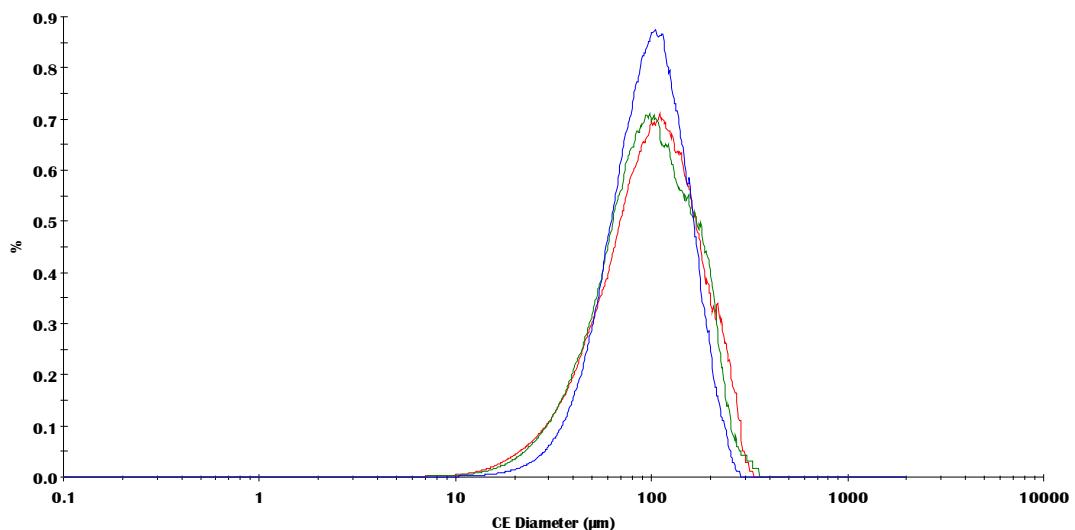


### Arithmetic fibre width

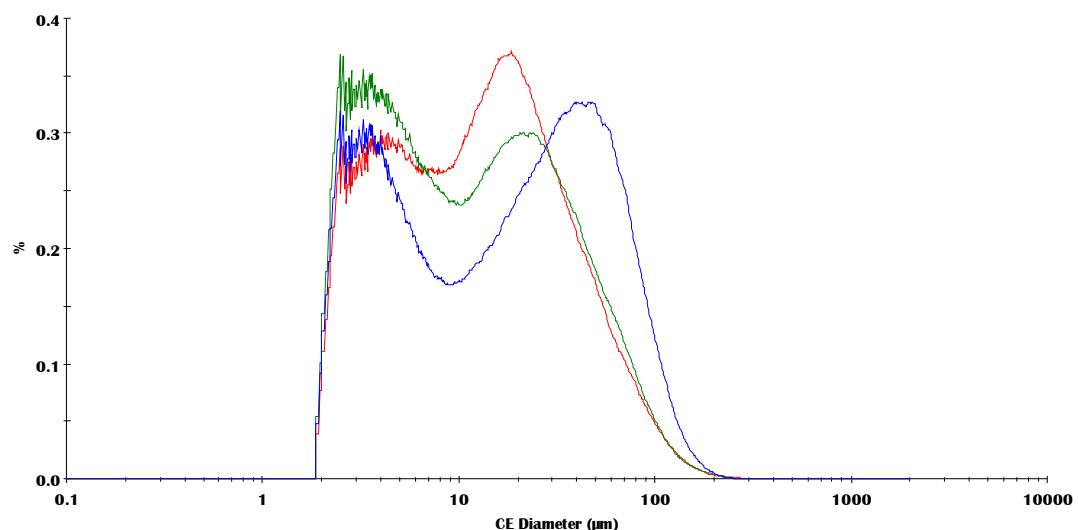


**Figure S1 (continued).** Volume weighted and arithmetically weighted size, fibre length and width of Methocel CR (red) and DC (green) grades of HPMC.

Geometric size

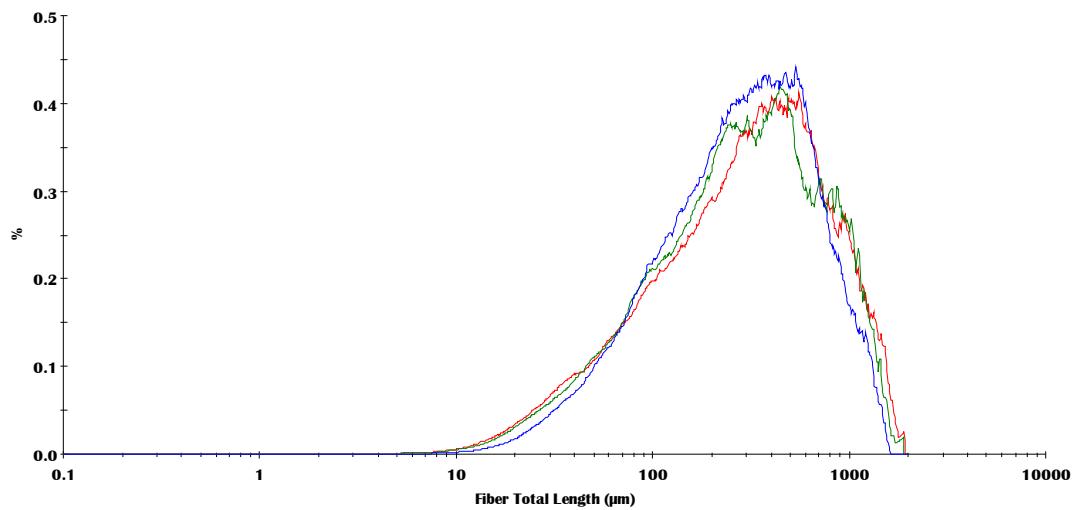


Arithmetic size

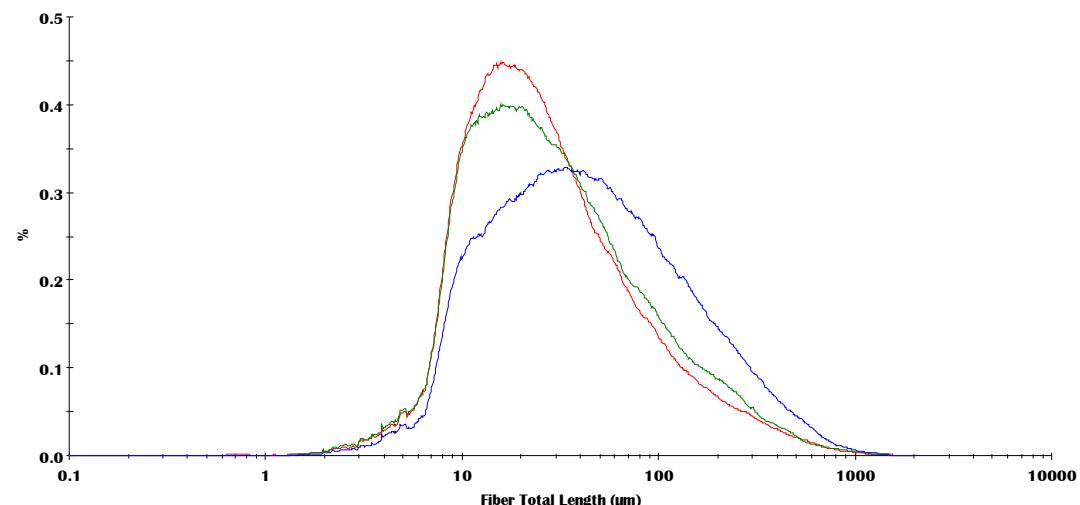


**Figure S2.** Volume weighted and arithmetically weighted size, fibre length and width of Benecel CR (red), DC (green) and XR (blue) grades of HPMC.

Geometric fibre length

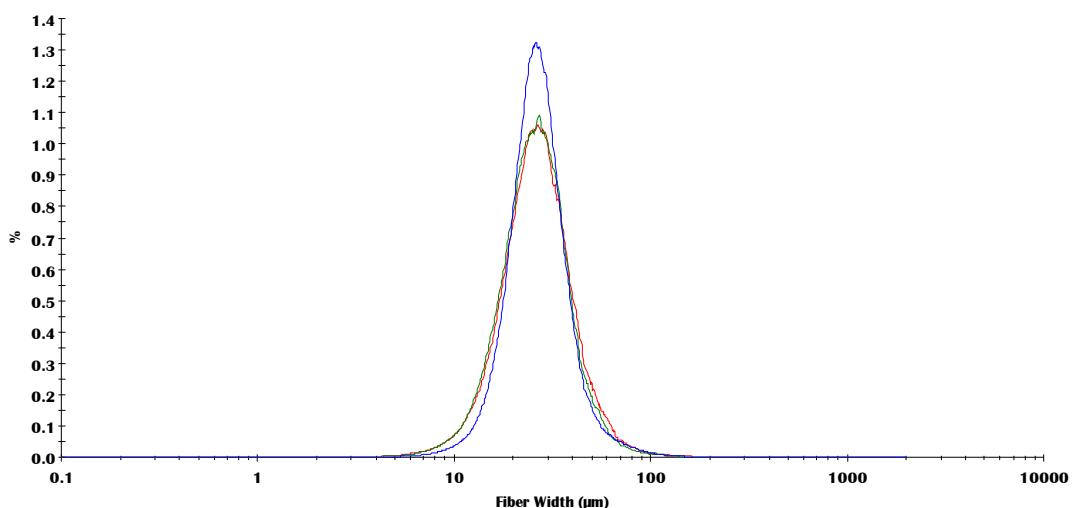


Arithmetic fibre length

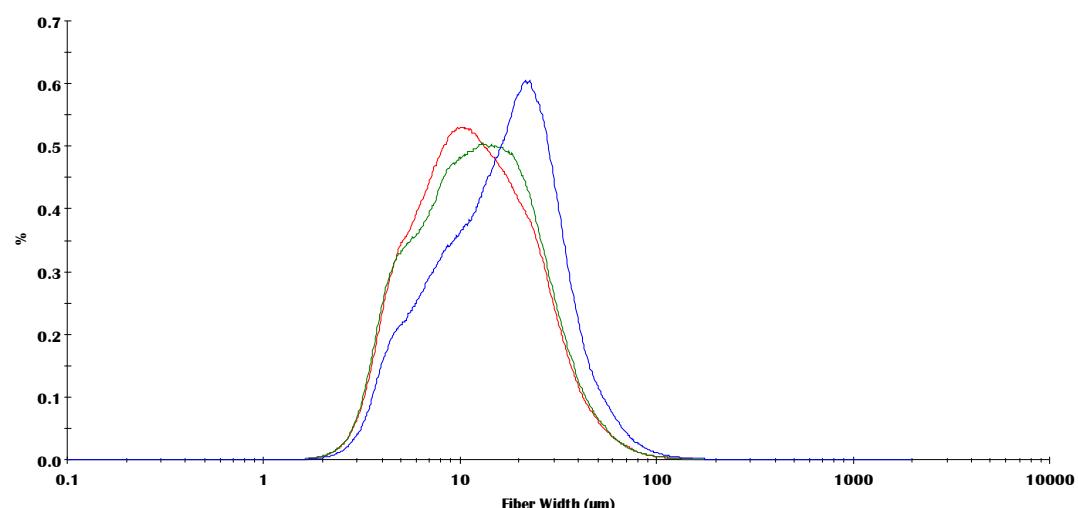


**Figure S2 (continued).** Volume weighted and arithmetically weighted size, fibre length and width of Benecel CR (red), DC (green) and XR (blue) grades of HPMC.

Geometric fibre width

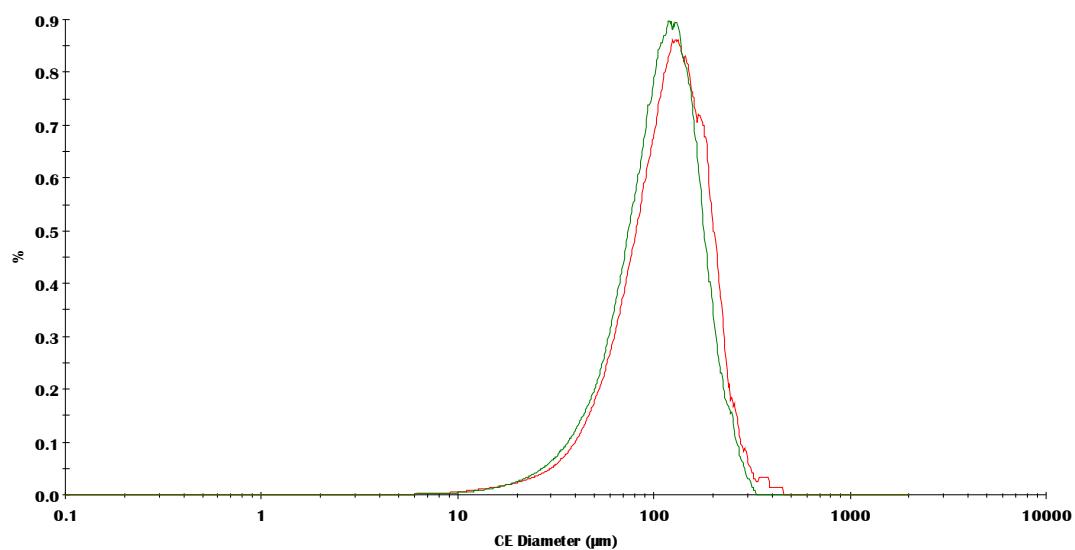


Arithmetic fibre width

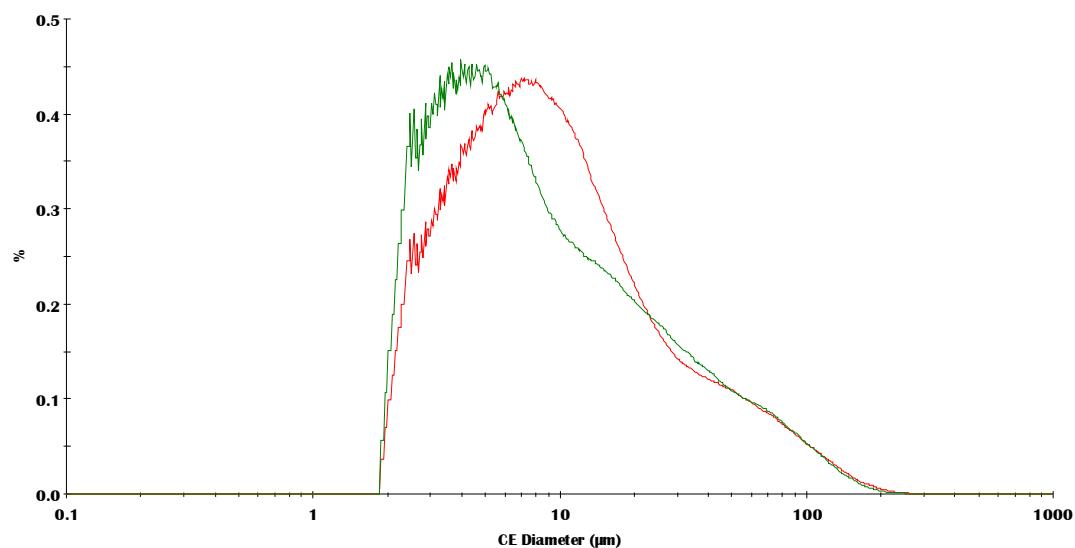


**Figure S2 (continued).** Volume weighted and arithmetically weighted size, fibre length and width of Benecel CR (red), DC (green) and XR (blue) grades of HPMC.

### Geometric size

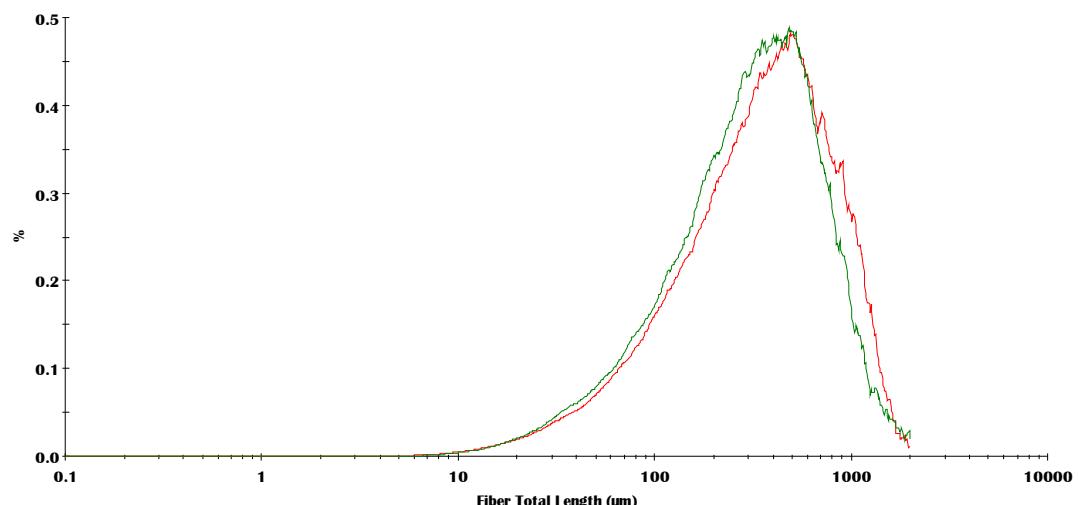


### Arithmetic size

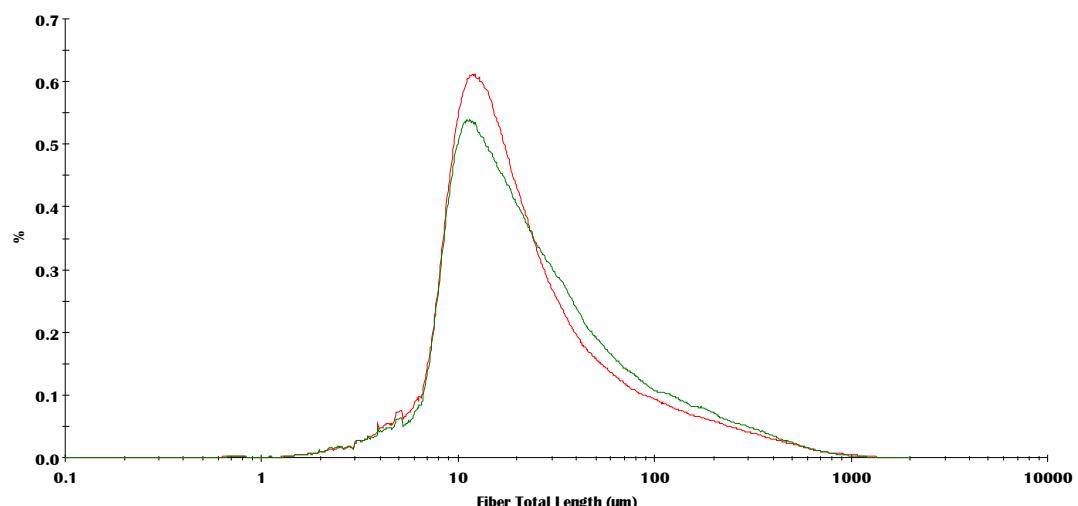


**Figure S3. Volume weighted and arithmetically weighted size, fibre length and width of Metolose 90SH (red) and Metolose 90SH SR (green) grades of HPMC.**

Geometric fibre length

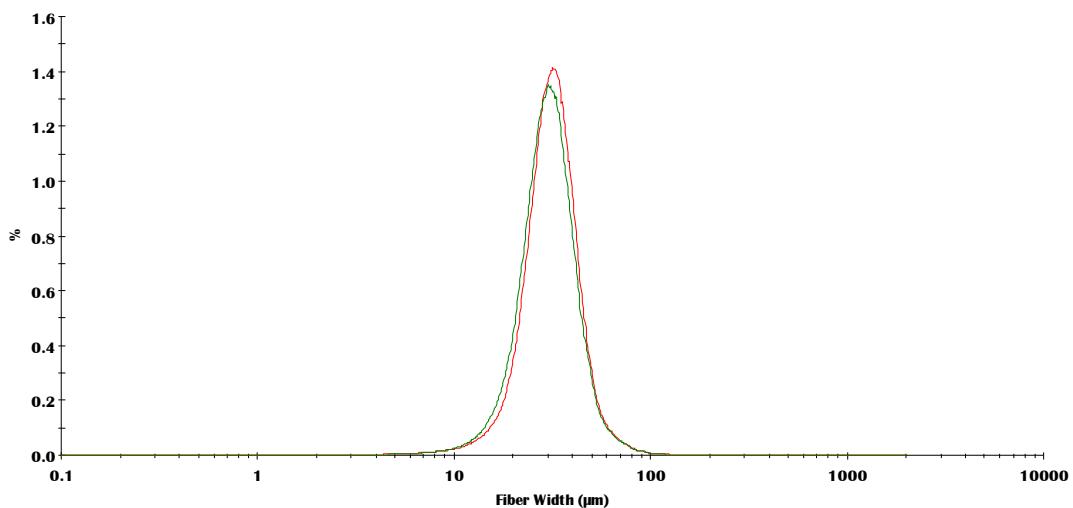


Arithmetic fibre length

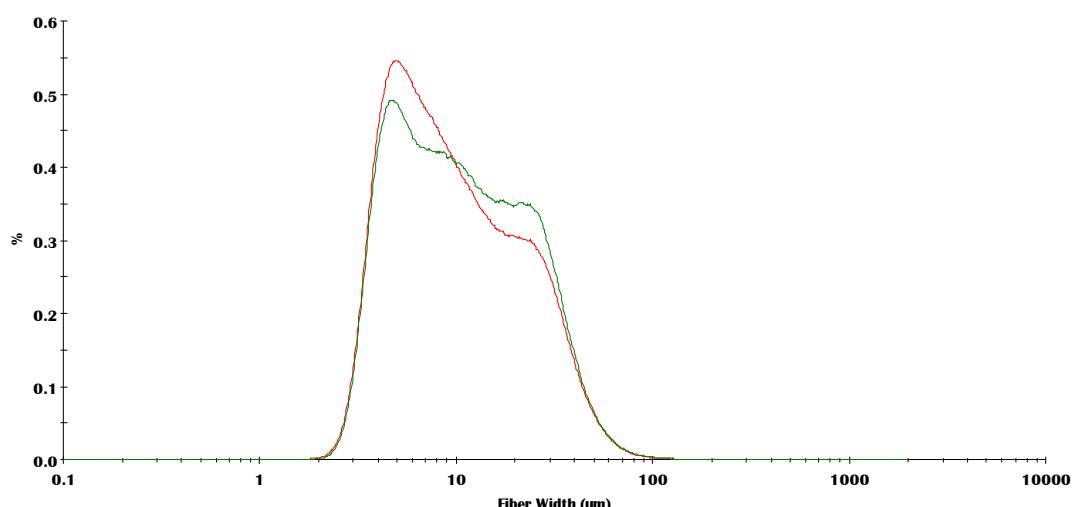


**Figure S3 (continued).** Volume weighted and arithmetically weighted size, fibre length and width of Metolose 90SH (red) and Metolose 90SH SR (green) grades of HPMC.

Geometric fibre width

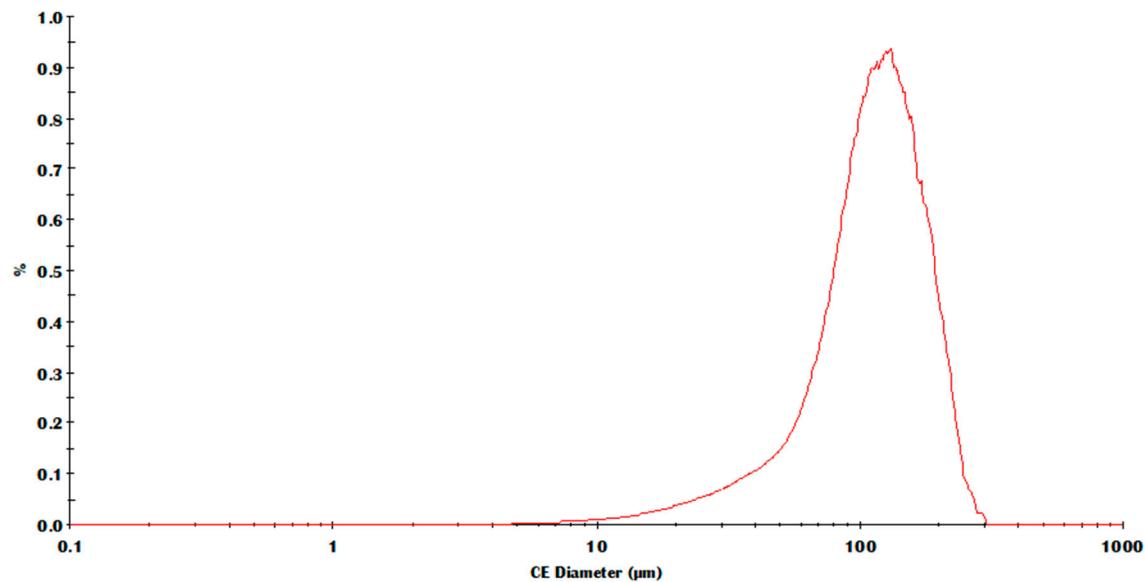


Arithmetic fibre width

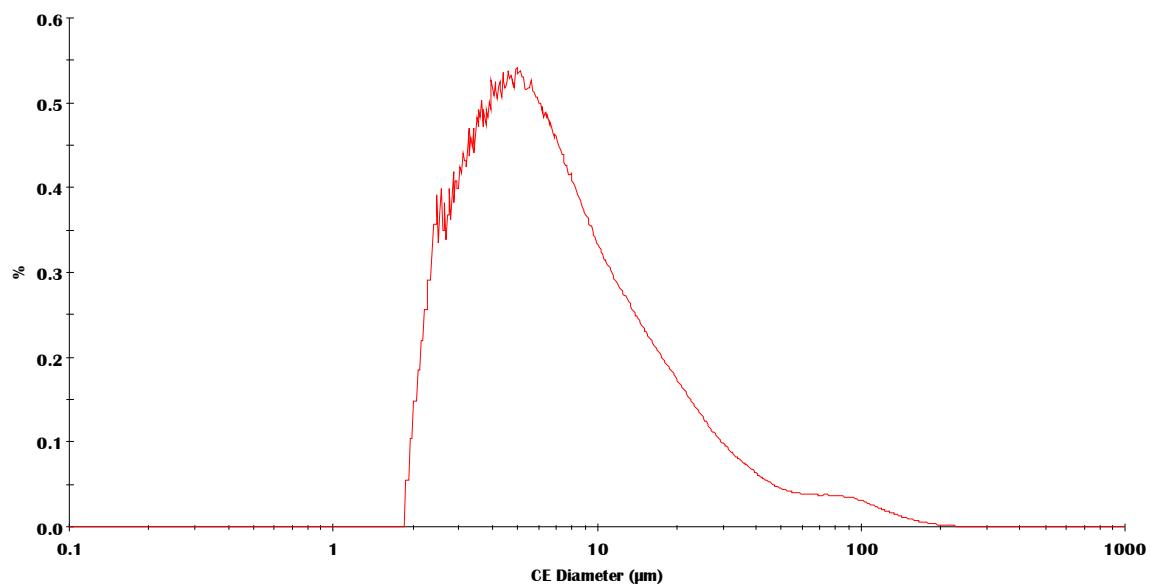


**Figure S3 (continued).** Volume weighted and arithmetically weighted size, fibre length and width of Metolose 90SH (red) and Metolose 90SH SR (green) grades of HPMC.

Geometric size

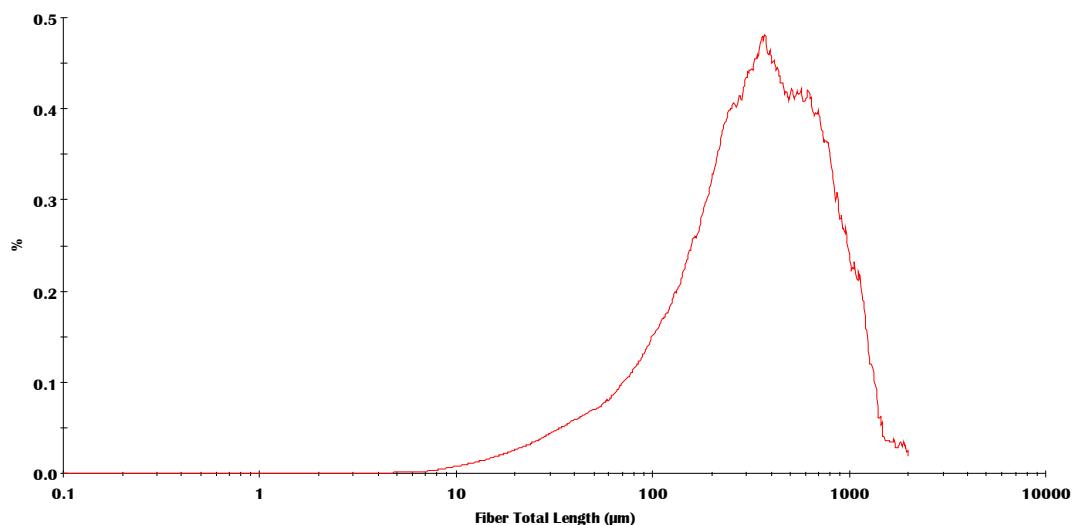


Arithmetic size

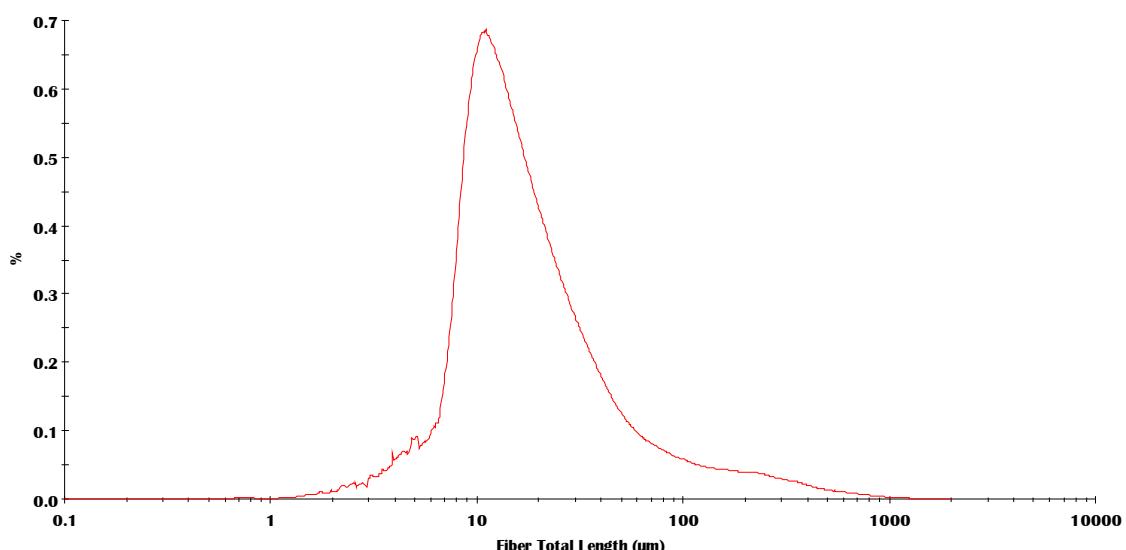


**Figure S4. Volume weighted and arithmetically weighted size, fibre length and width of Bonucel D HPMC**

Geometric fibre length

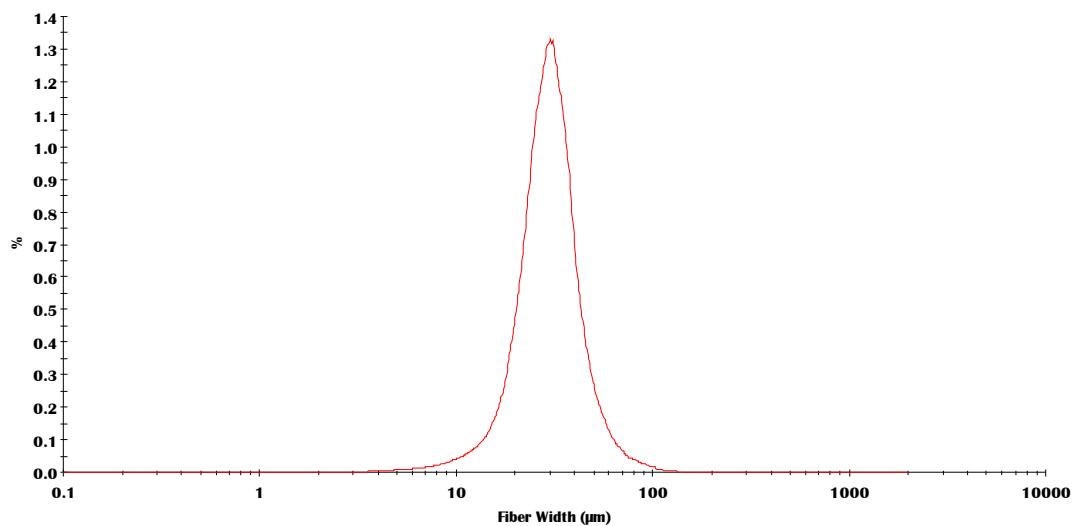


Arithmetic fibre length

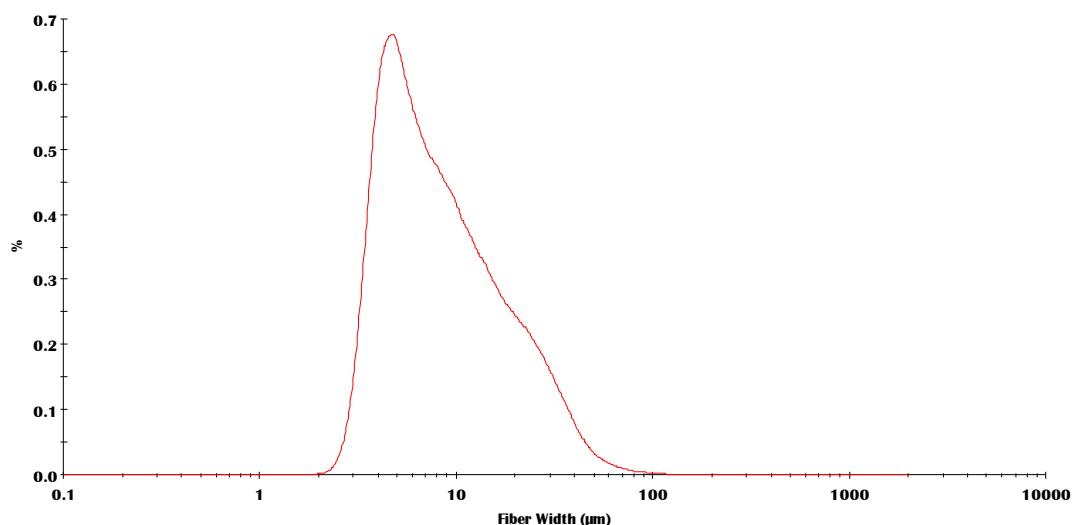


**Figure S4 (continued). Volume weighted and arithmetically weighted size, fibre length and width of Bonucel D HPMC**

Geometric fibre width



Arithmetic fibre width



**Figure S4 (continued). Volume weighted and arithmetically weighted size, fibre length and width of Bonucel D HPMC**