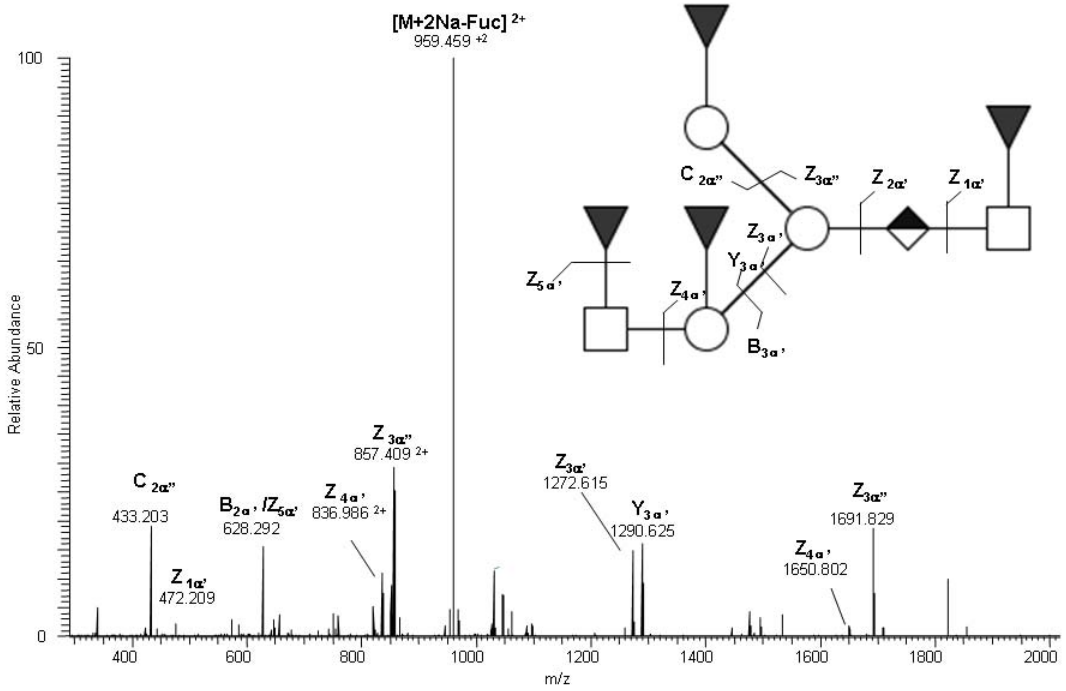

Figure S1. Compositional analysis of the ESI-CID-MS/MS fragmentation of *bus-2 m/z* 1062.517 $[M+2Na]^{2+}$

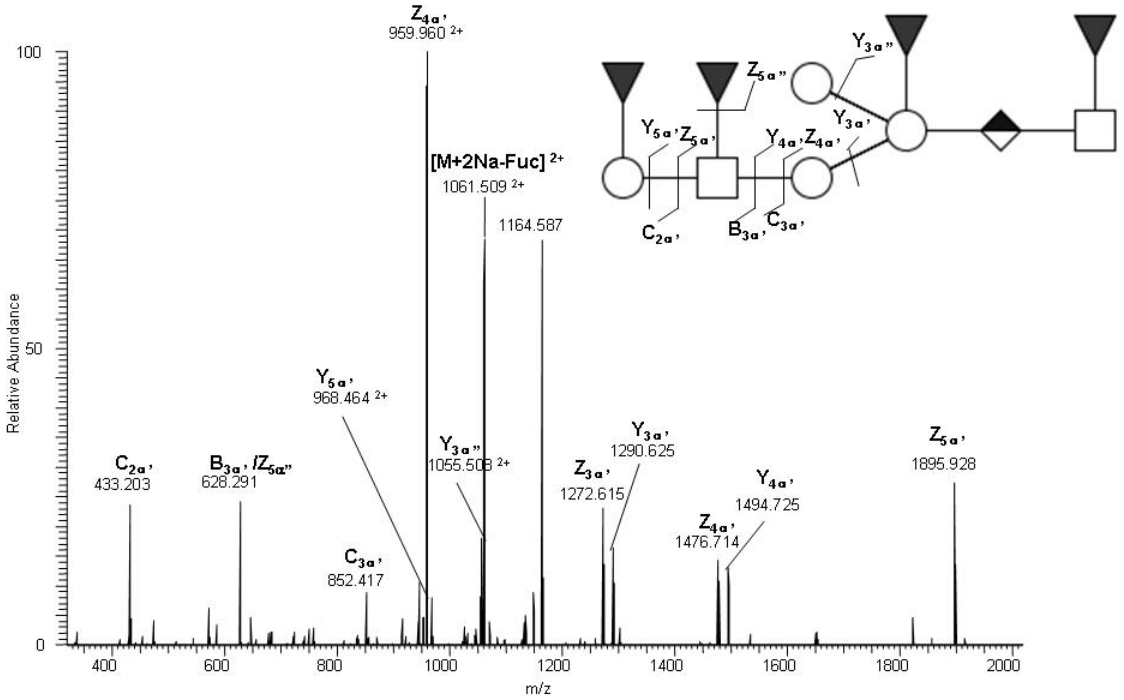

Figure S2. Compositional analysis of the ESI-CID-MS/MS fragmentation of *bus-2 m/z* 1164.566 $[M+2Na]^{2+}$

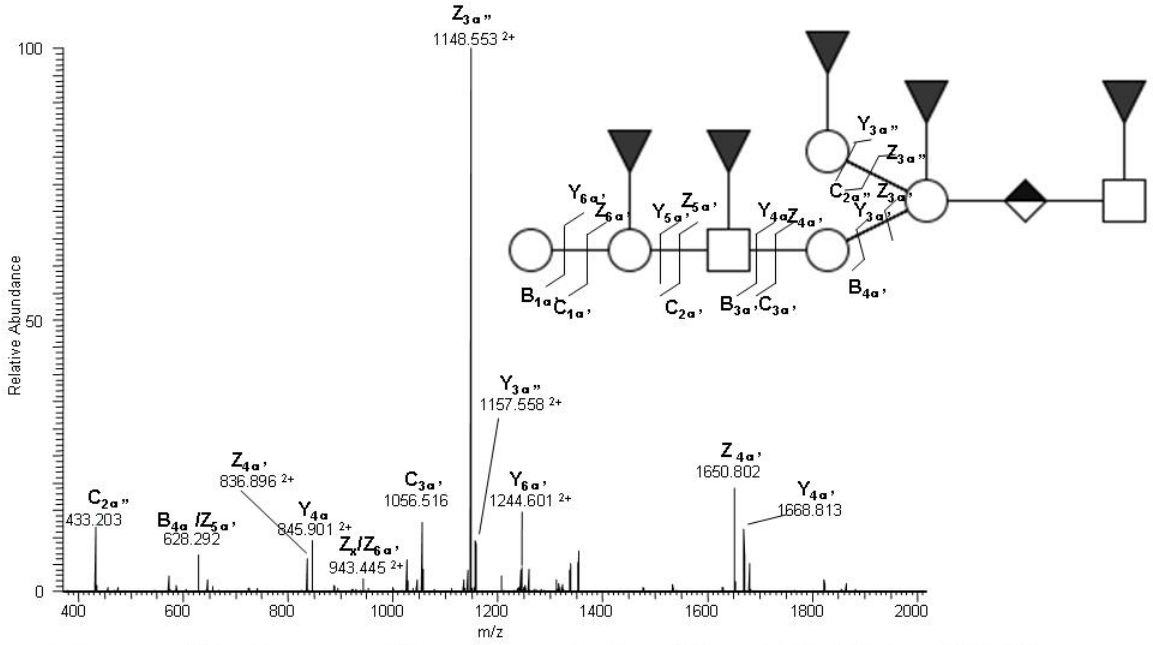

Figure S3. Compositional analysis of the ESI-CID-MS/MS fragmentation of *bus-2 m/z* 1353.661 $[M+2Na]^{2+}$

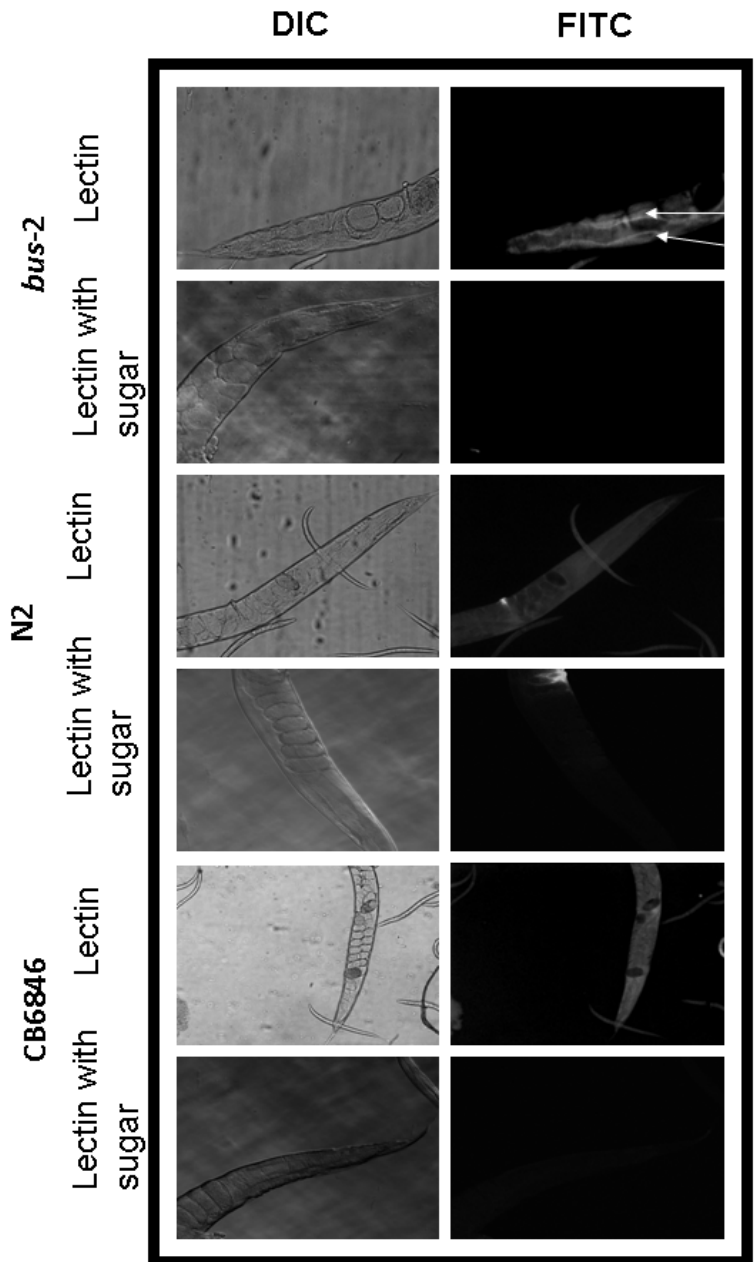

Figure S4. UEA I lectin staining of N2, *bus-2* and rescued transformant CB6846. CB6846 reacquires the wildtype expression pattern of fucosyl glycoconjugates. The arrows in the top right *bus-2* panel highlight staining at the margin of the intestinal wall. Intestinal staining is more intense and cuticle staining more erratic in the *bus-2* mutant while cuticle staining in both wild-type and *bus-2* restored strains is more uniform.

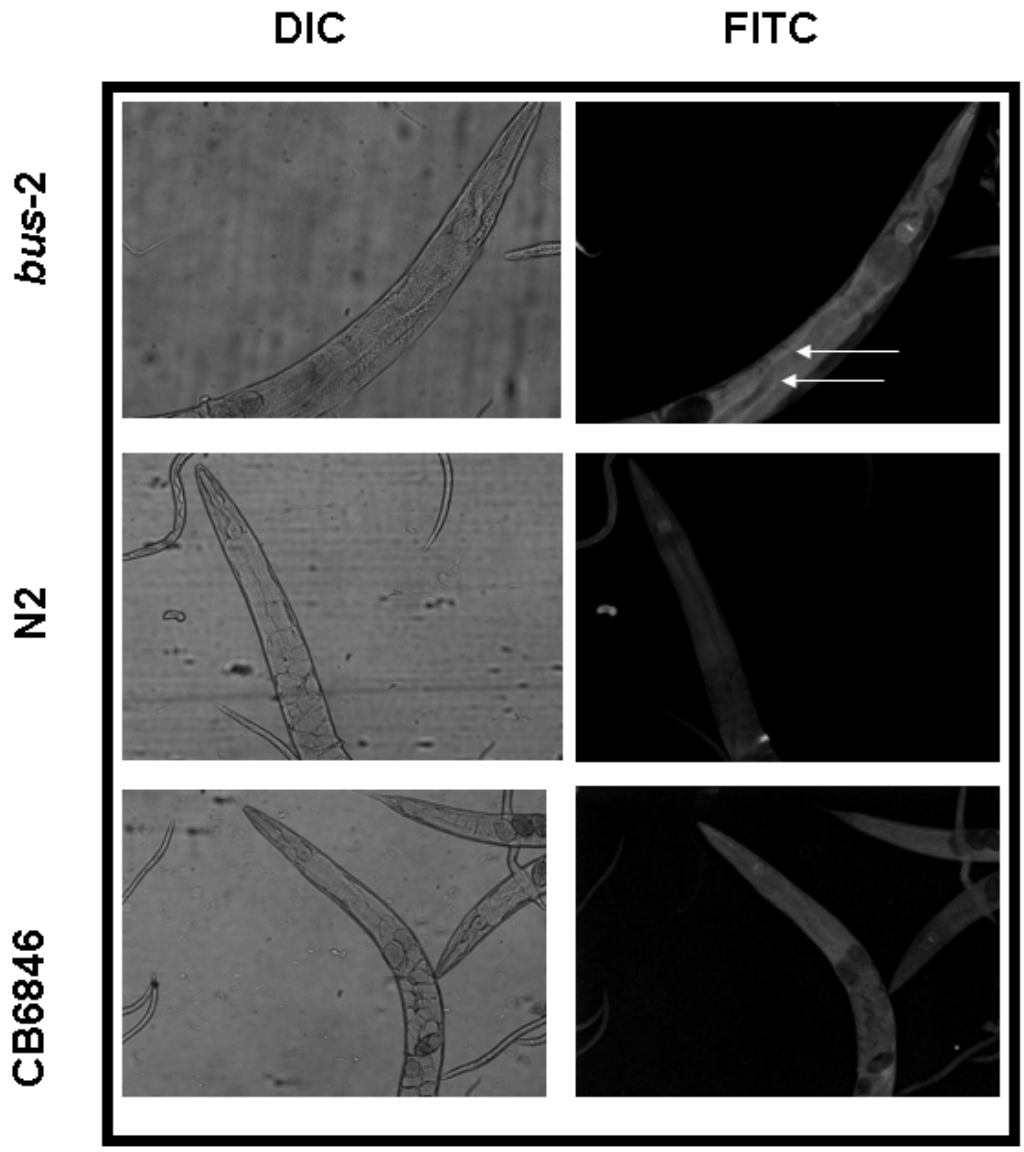

Figure S5. UEA I lectin staining of the anterior region of N2, *bus-2* and rescued transformant CB6846. The *bus-2* strain stains heavily over the digestive tract including intestine, bulb, pharynx and mouth. The arrows in the top right *bus-2* panel highlight staining at the margin of the intestinal wall. The cuticle of *bus-2* also stains more brightly than in N2. CB6846 partially reverts to wildtype expression pattern of fucosyl oligosaccahrides as intestine staining is less abundant.

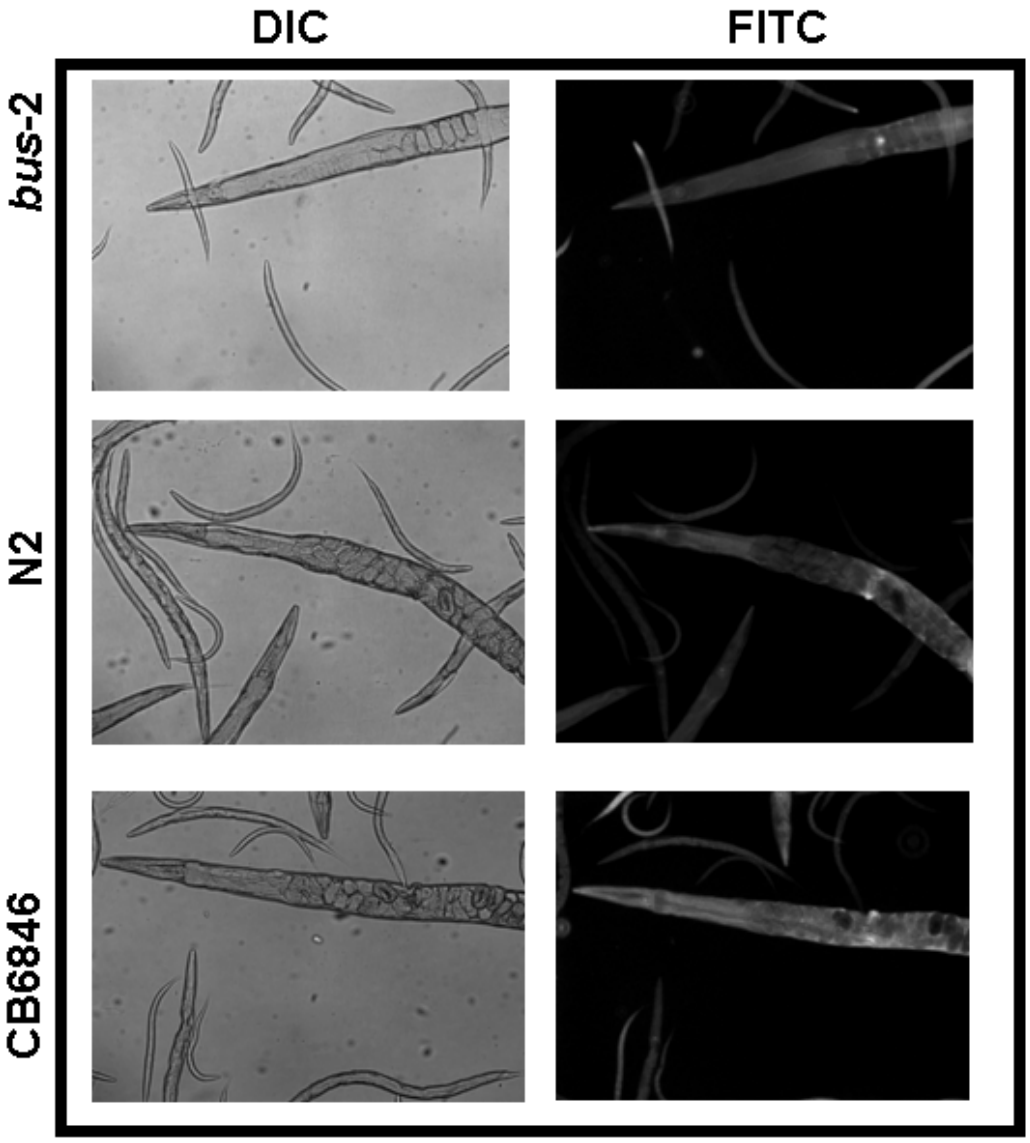

Figure S6. Anterior ABA lectin staining of N2, *bus-2* and rescued transformant CB6846. Lectin staining is seen in the anterior cuticle region including the head and less uniformly from the midbody to the posterior. ABA staining is less intense in the *bus-2* mutant throughout the cuticle. Rescued transformant stains more intensely over the cuticle that both *bus-2* and N2 strains.