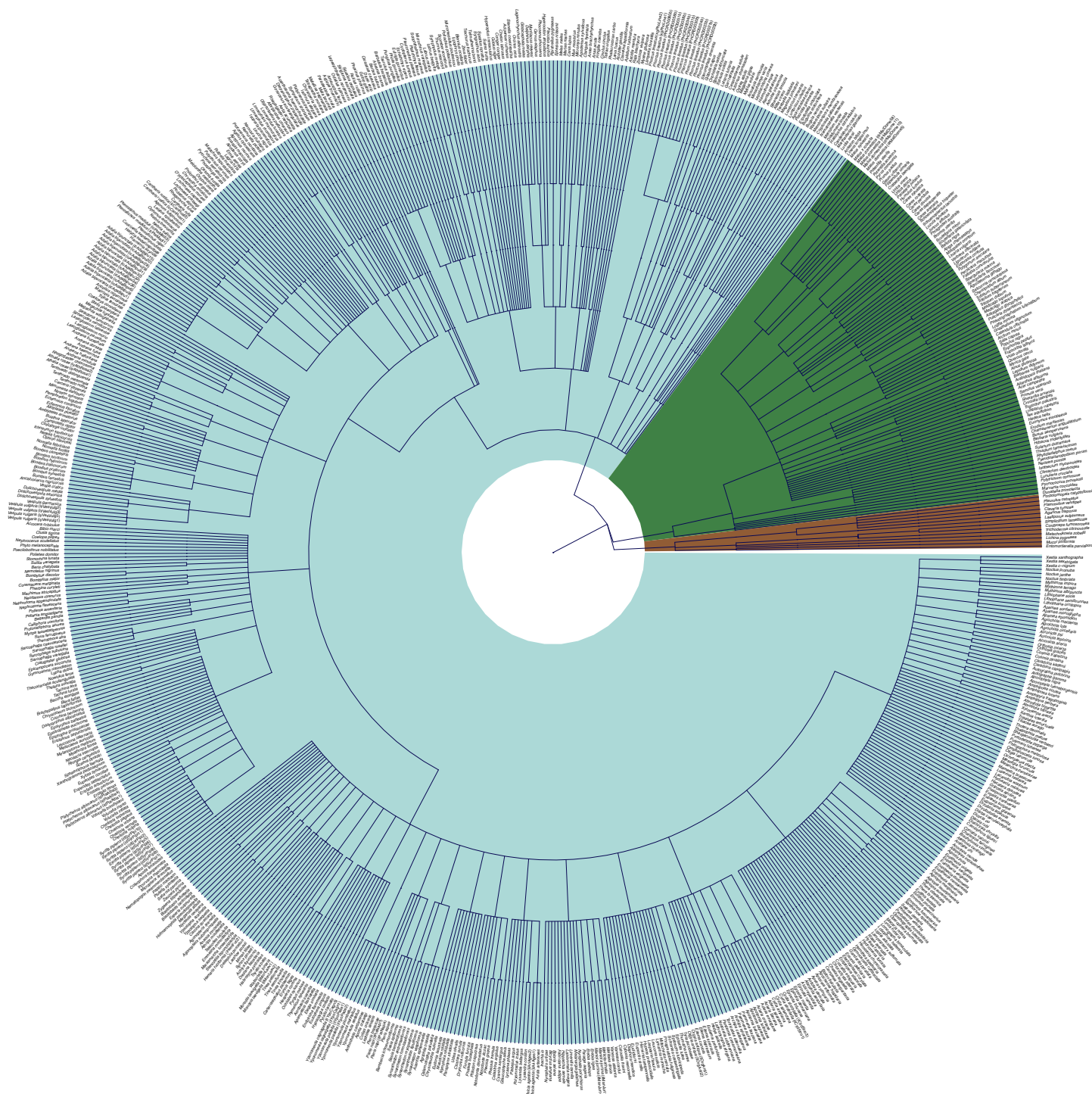
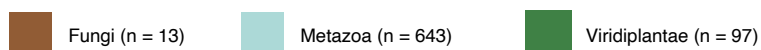
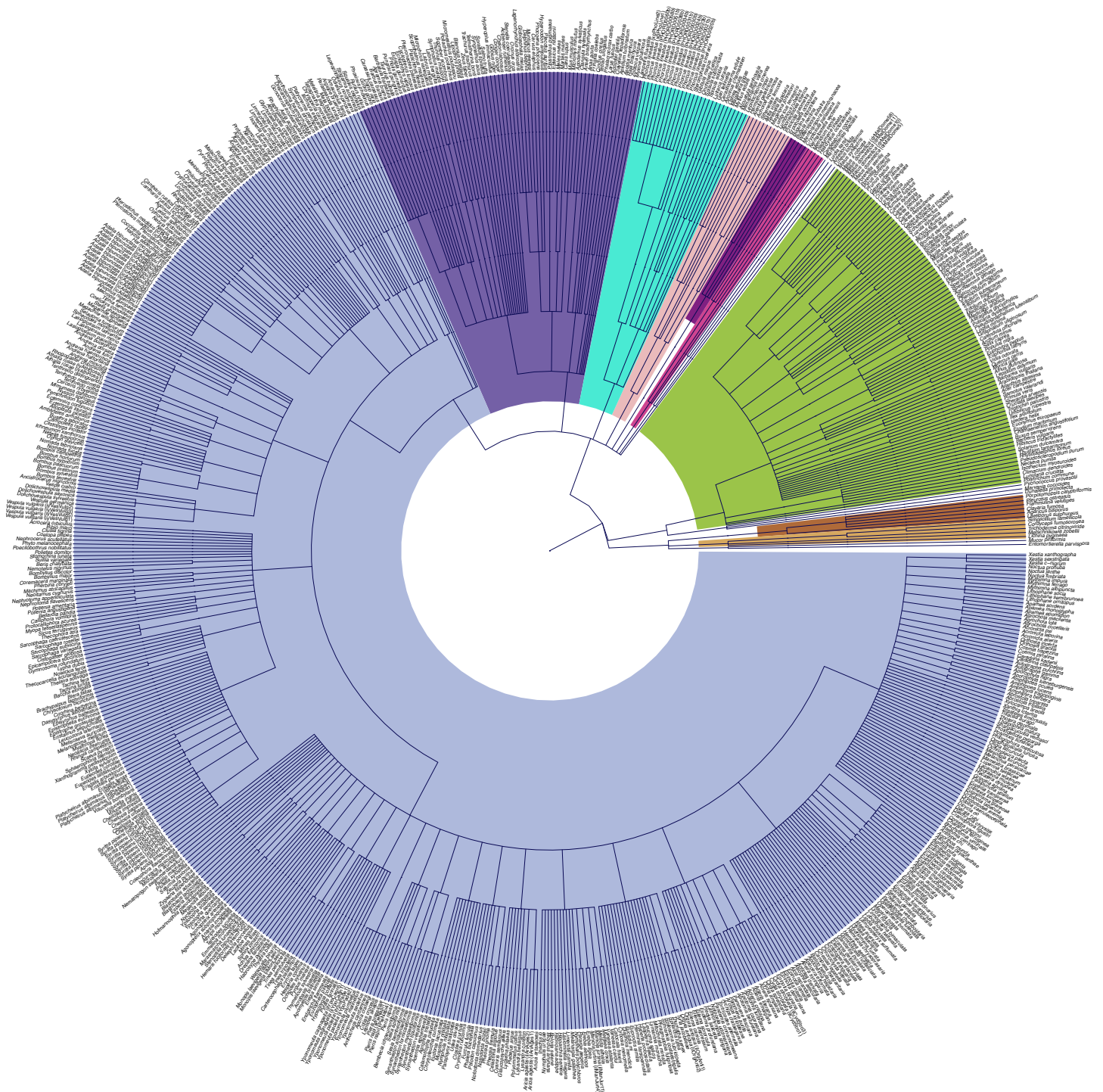




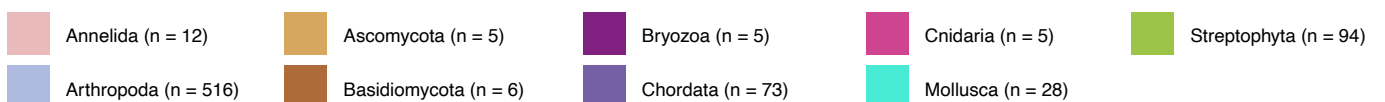
Kingdom-level classifications



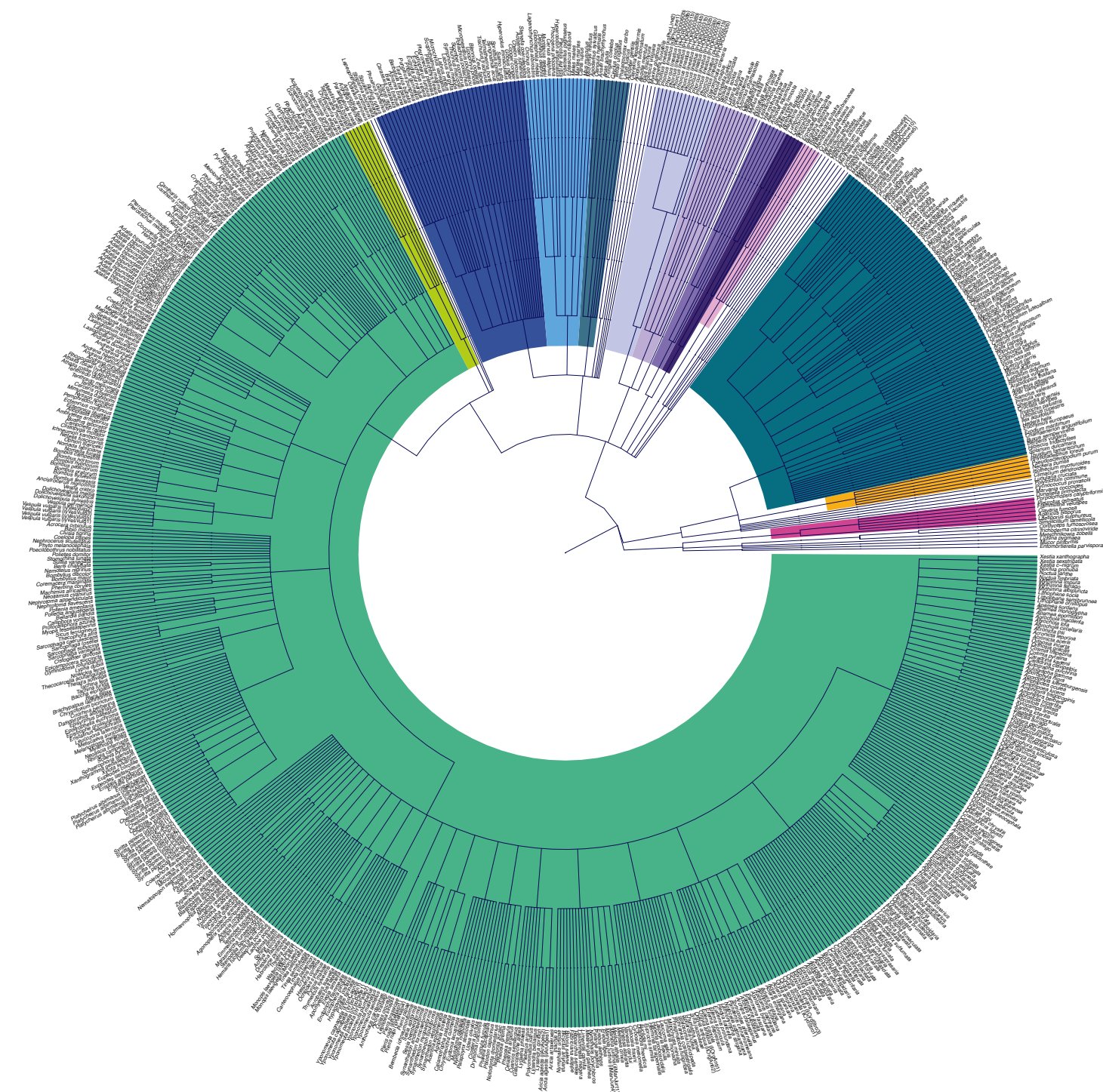
Supplementary Fig. 1 | Phylogenetic tree constructed from samples with complete taxonomic classifications, shaded by their Kingdom-level classification. Seven samples with missing taxonomic information were excluded. Taxonomic classifications with fewer than five samples are not shaded.



Phylum-level classifications



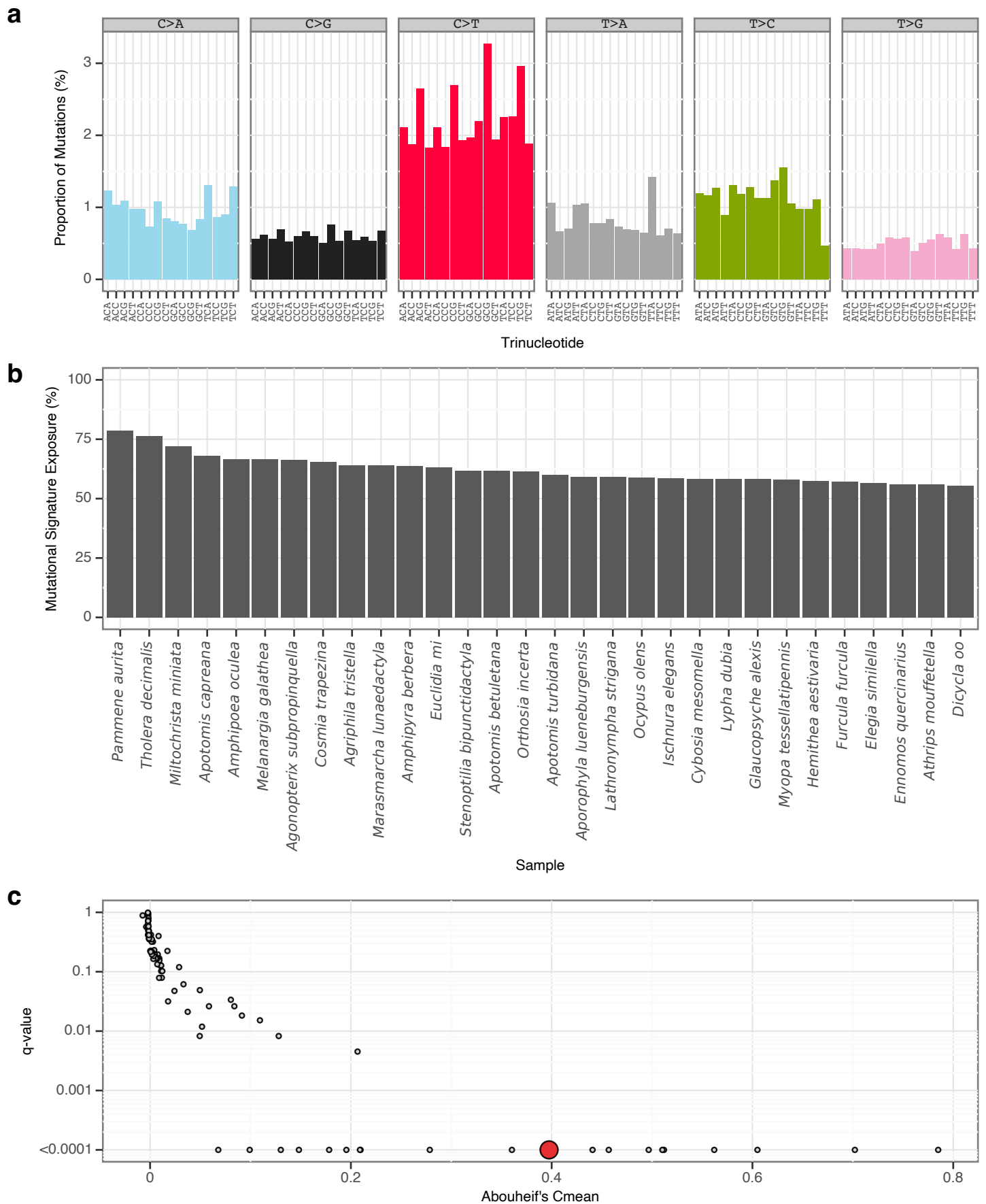
Supplementary Fig. 2 | Phylogenetic tree constructed from samples with complete taxonomic classifications, shaded by their Phylum-level classification. Seven samples with missing taxonomic information were excluded. Taxonomic classifications with fewer than five samples are not shaded.



Class-level classifications

■ Actinopteri (n = 39)	■ Aves (n = 9)	■ Clitellata (n = 5)	■ Insecta (n = 507)	■ Polychaeta (n = 7)
■ Agaricomycetes (n = 6)	■ Bivalvia (n = 11)	■ Gastropoda (n = 16)	■ Magnoliopsida (n = 86)	
■ Arachnida (n = 7)	■ Bryopsida (n = 6)	■ Gymnolaemata (n = 5)	■ Mammalia (n = 18)	

Supplementary Fig. 3 | Phylogenetic tree constructed from samples with complete taxonomic classifications, shaded by their Class-level classification. Seven samples with missing taxonomic information were excluded. Taxonomic classifications with fewer than five samples are not shaded.

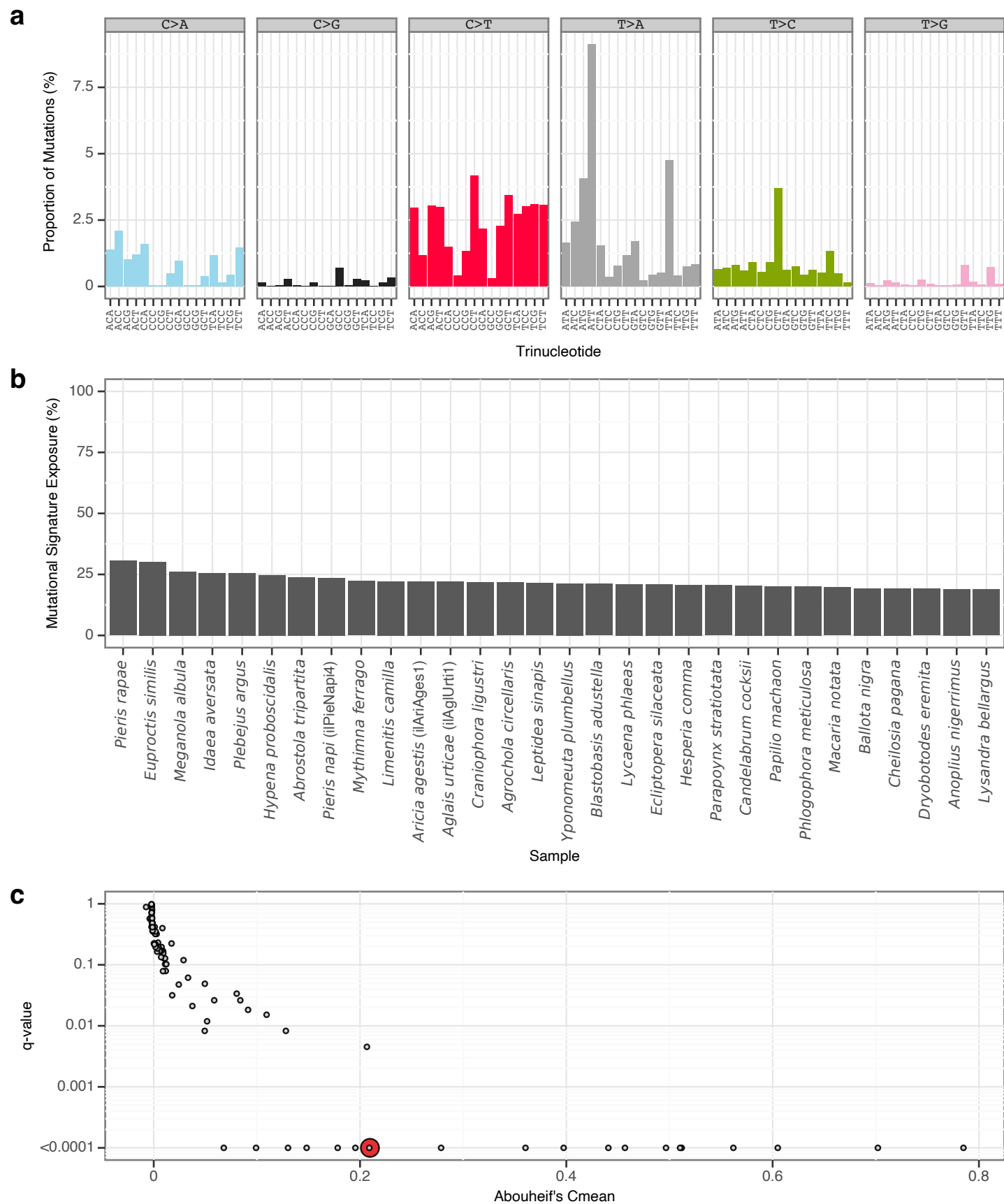


Supplementary Fig. 4 | sToL1 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

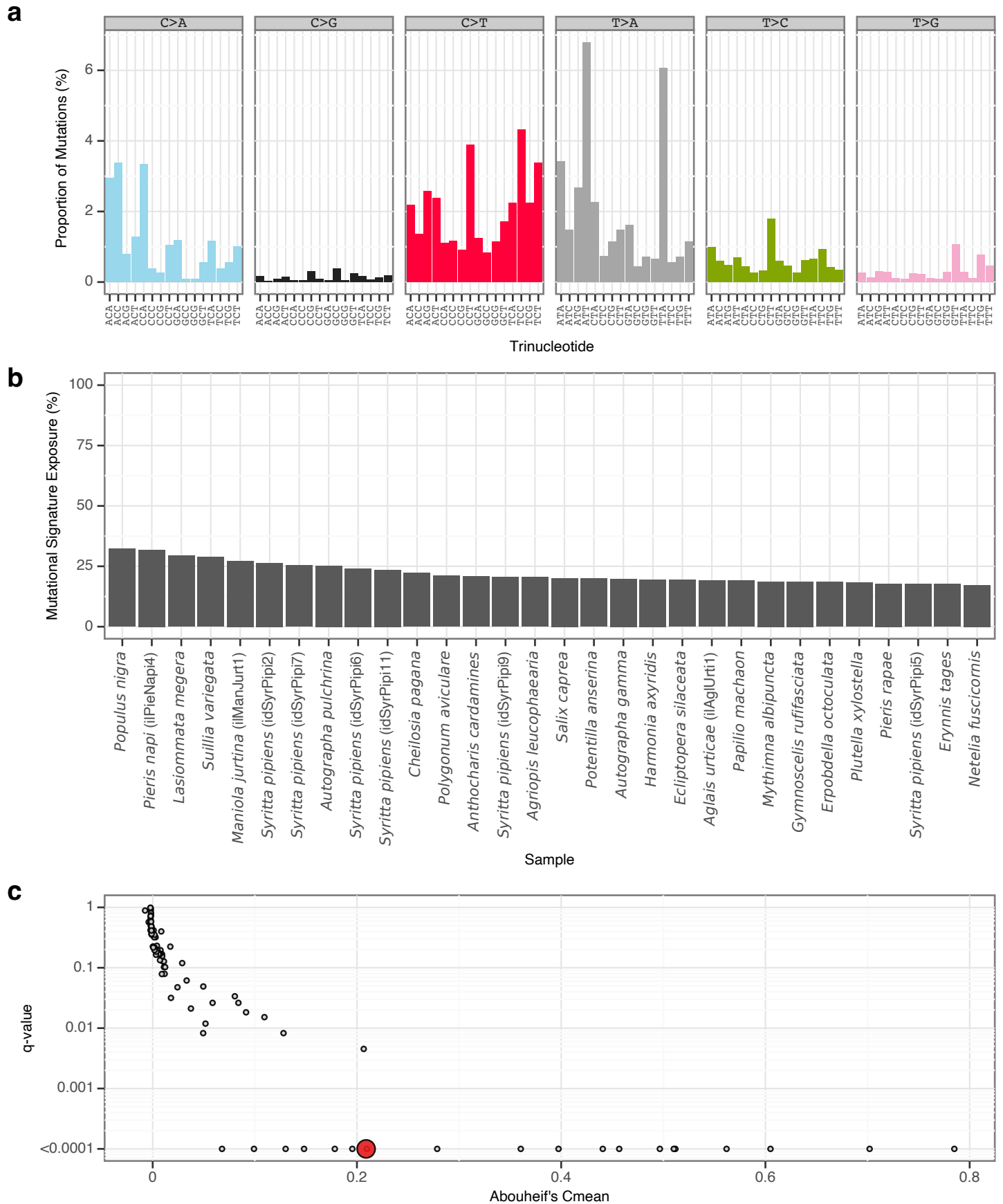


Supplementary Fig. 5 | sToL2 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

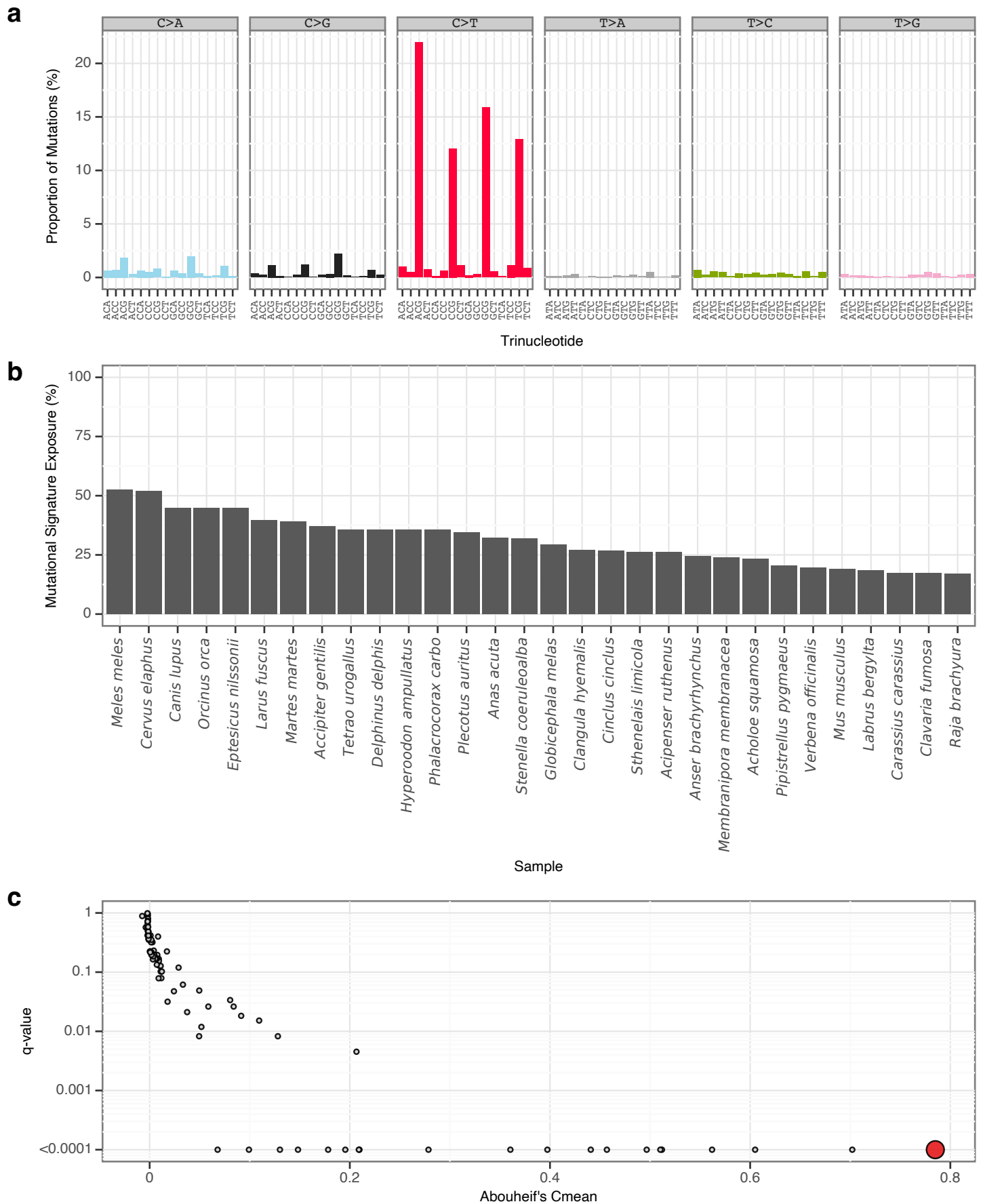


Supplementary Fig. 6 | sToL3 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

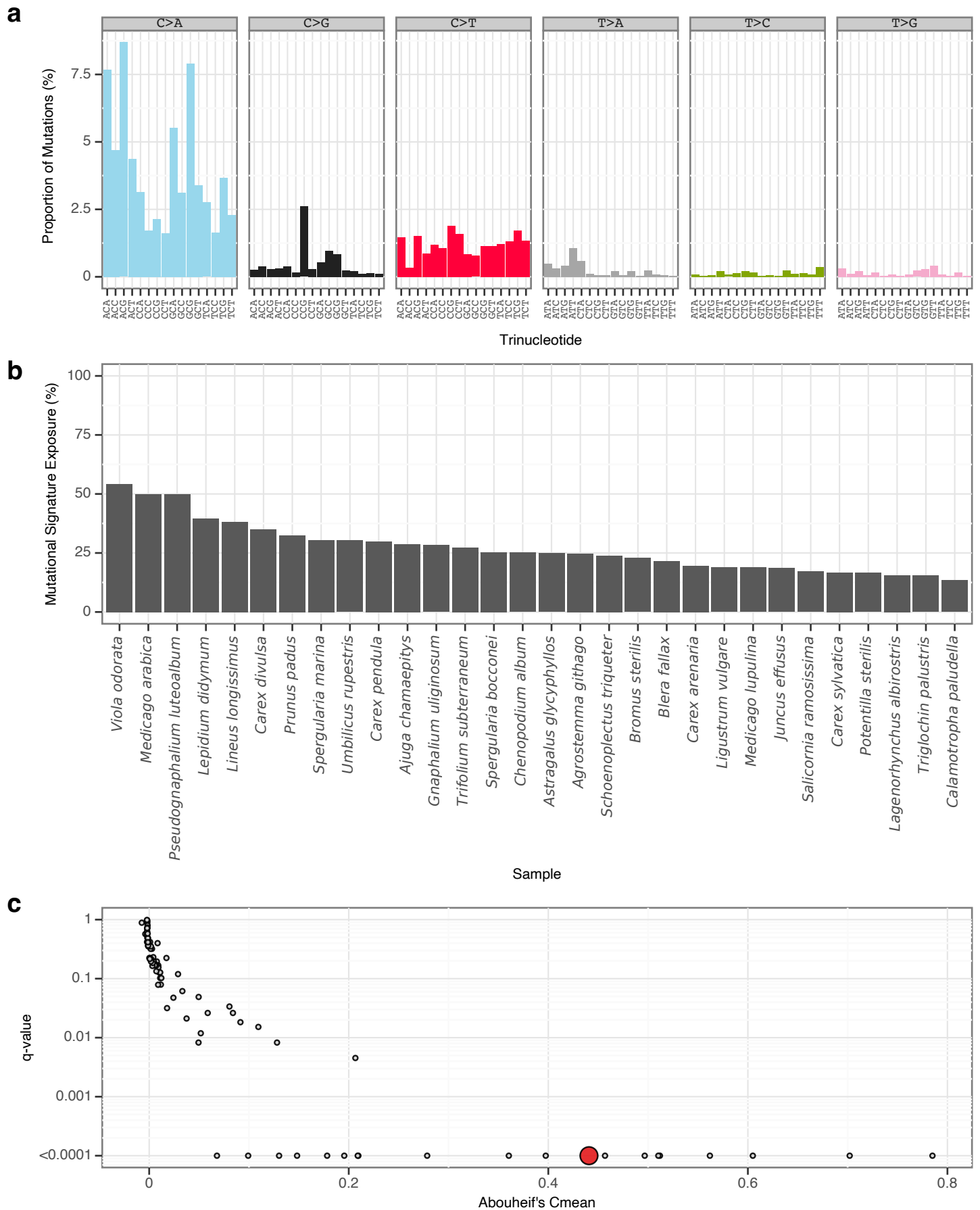


Supplementary Fig. 7 | sToL4 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

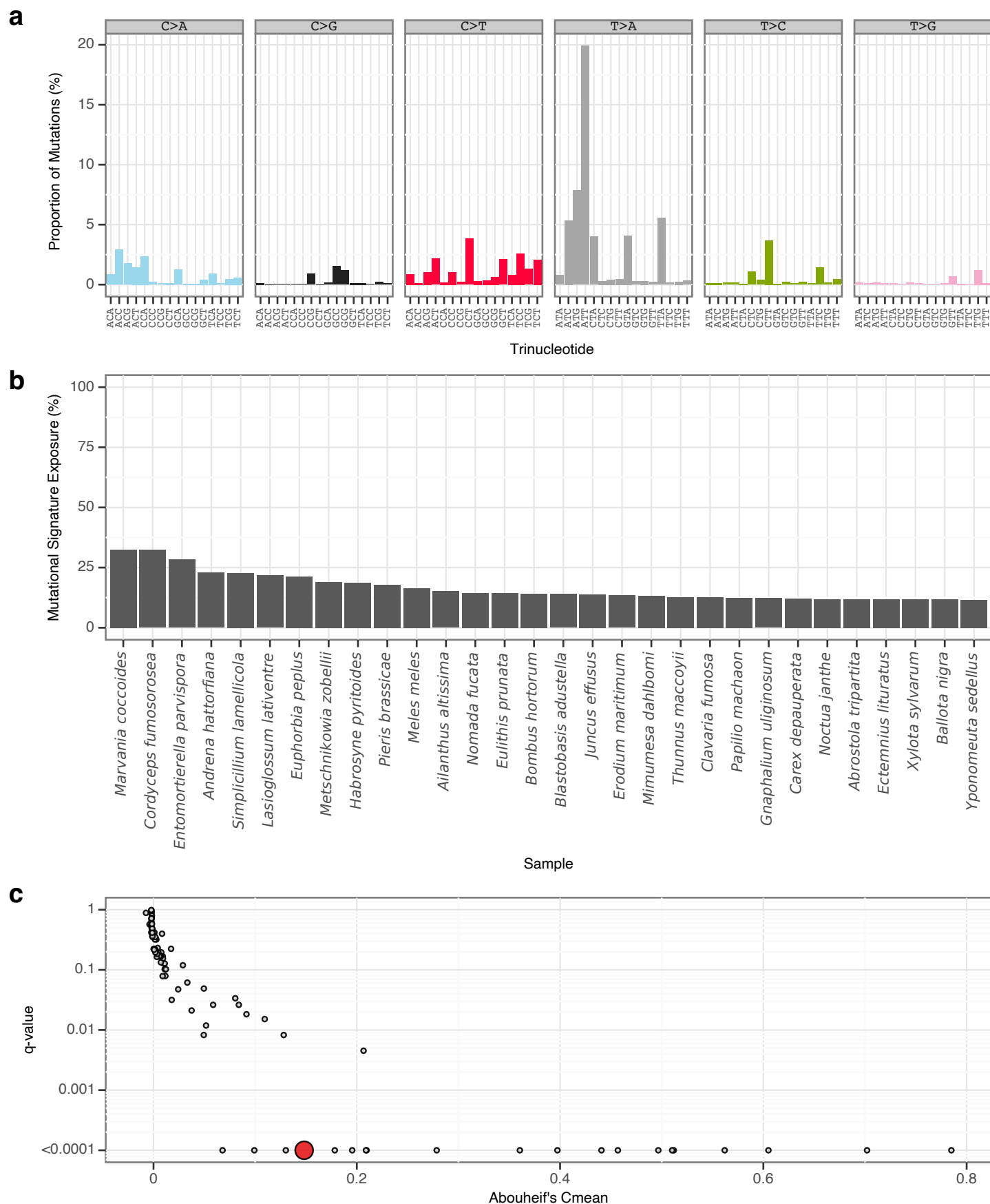


Supplementary Fig. 8 | sToL5 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

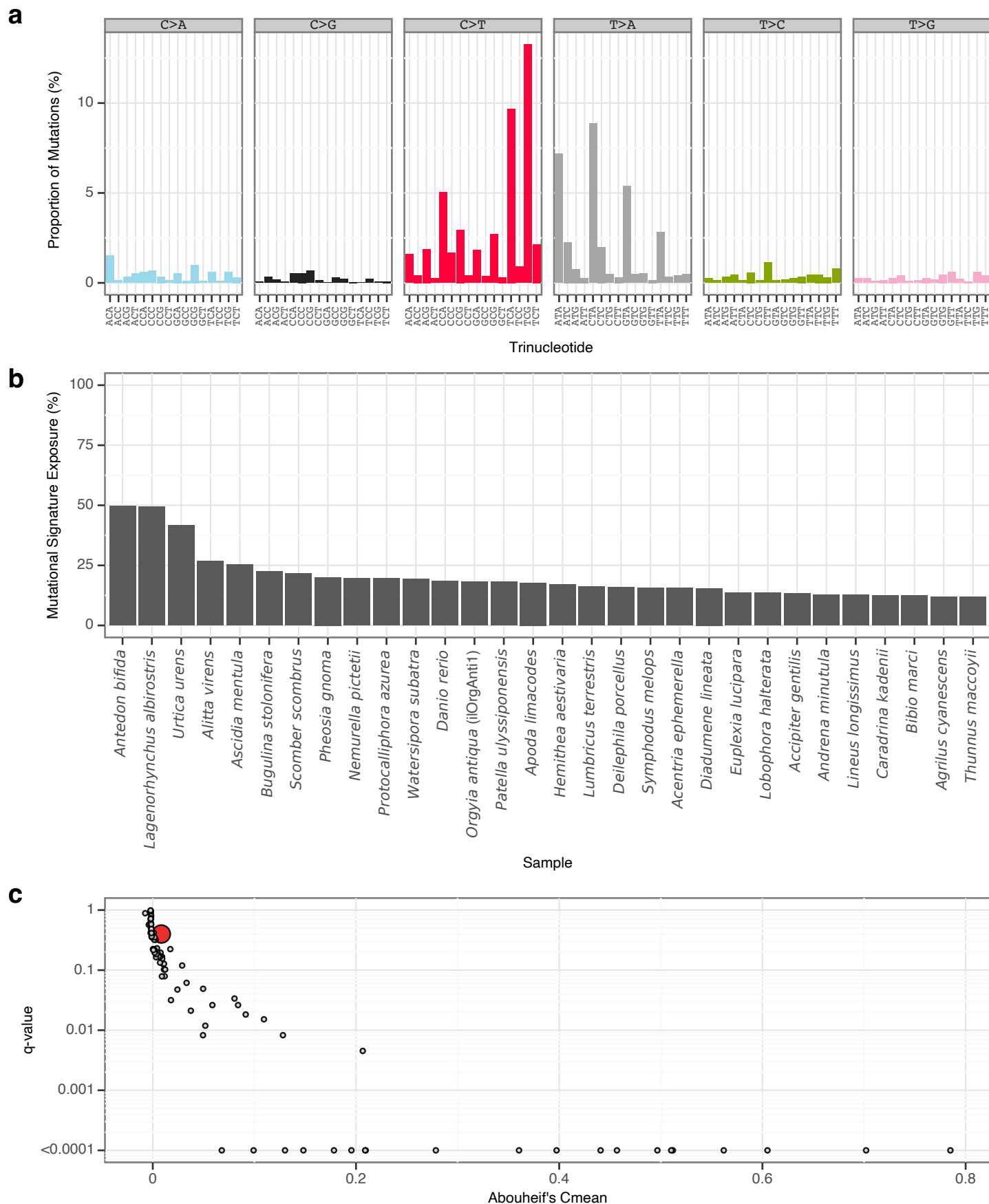


Supplementary Fig. 9 | sToL6 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

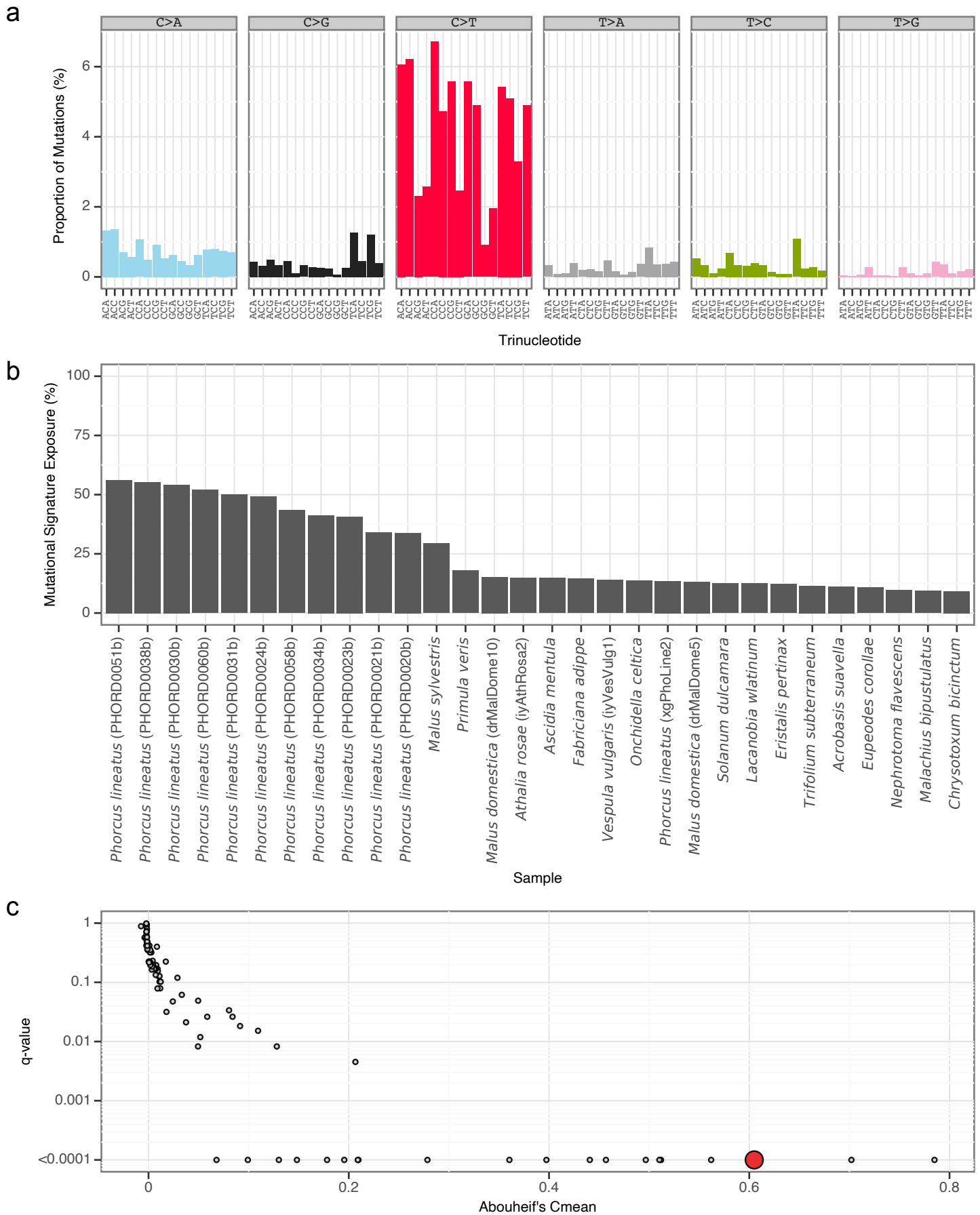


Supplementary Fig. 10 | sToL7 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

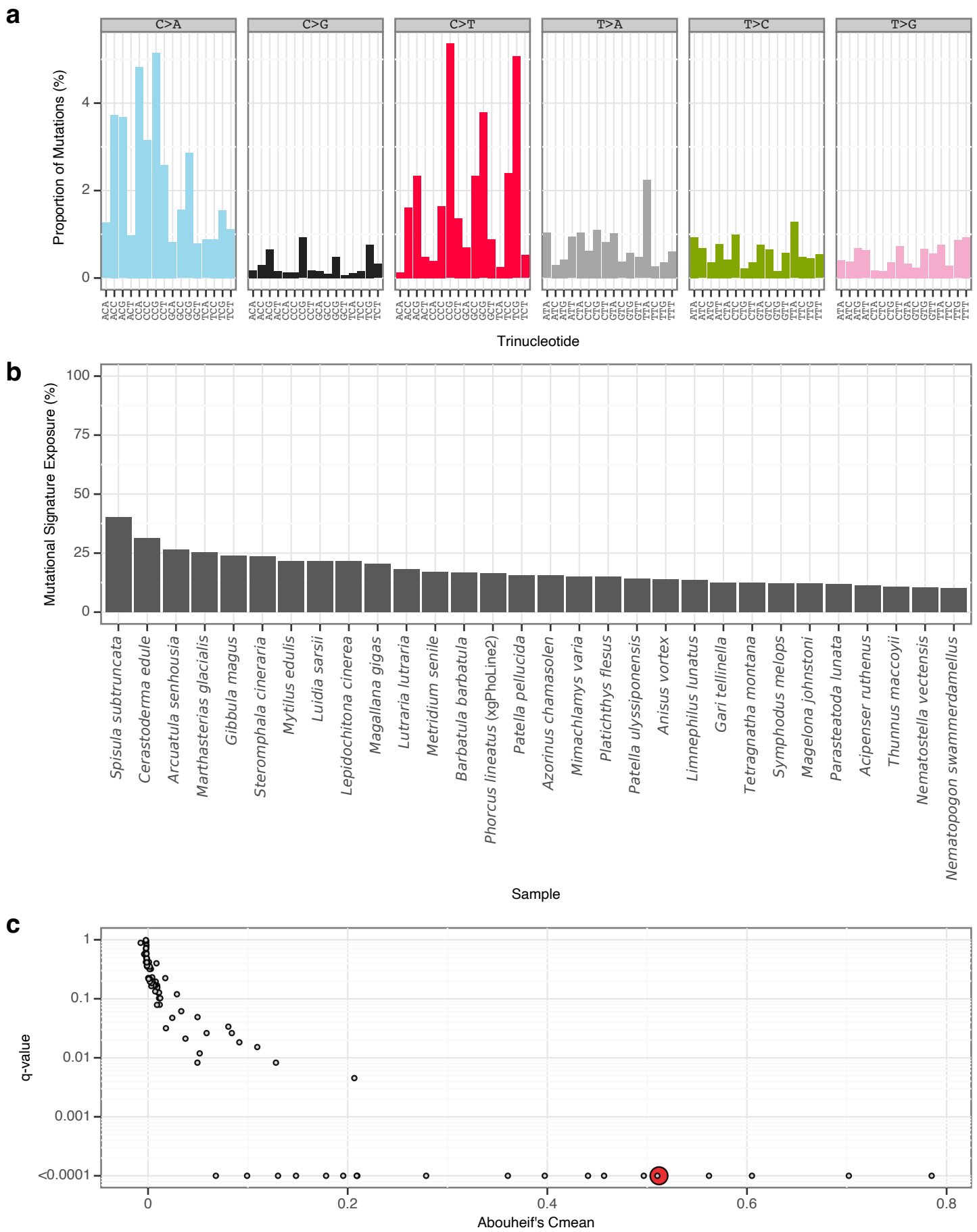


Supplementary Fig. 11 | sToL8 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

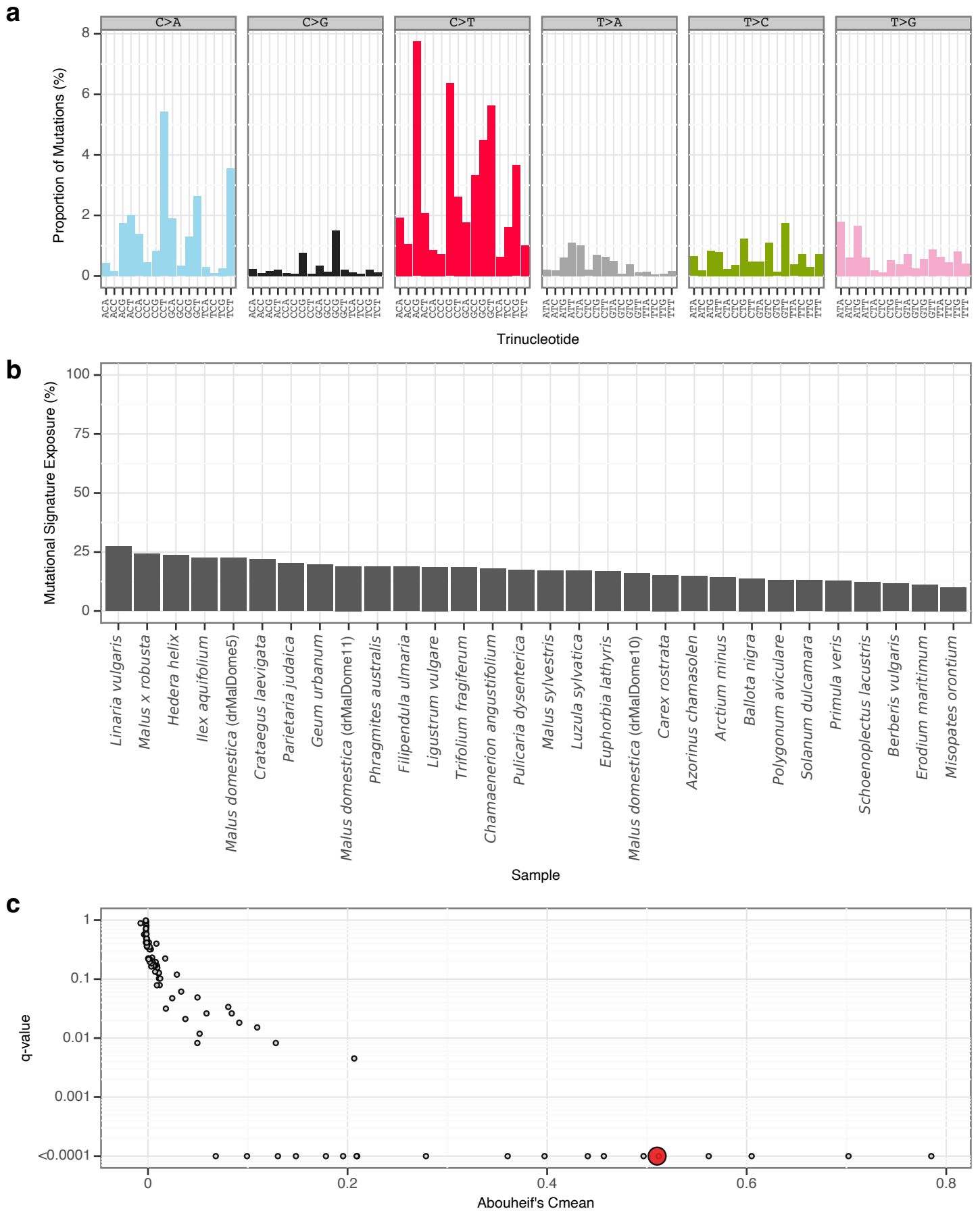


Supplementary Fig. 12 | sToL9 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

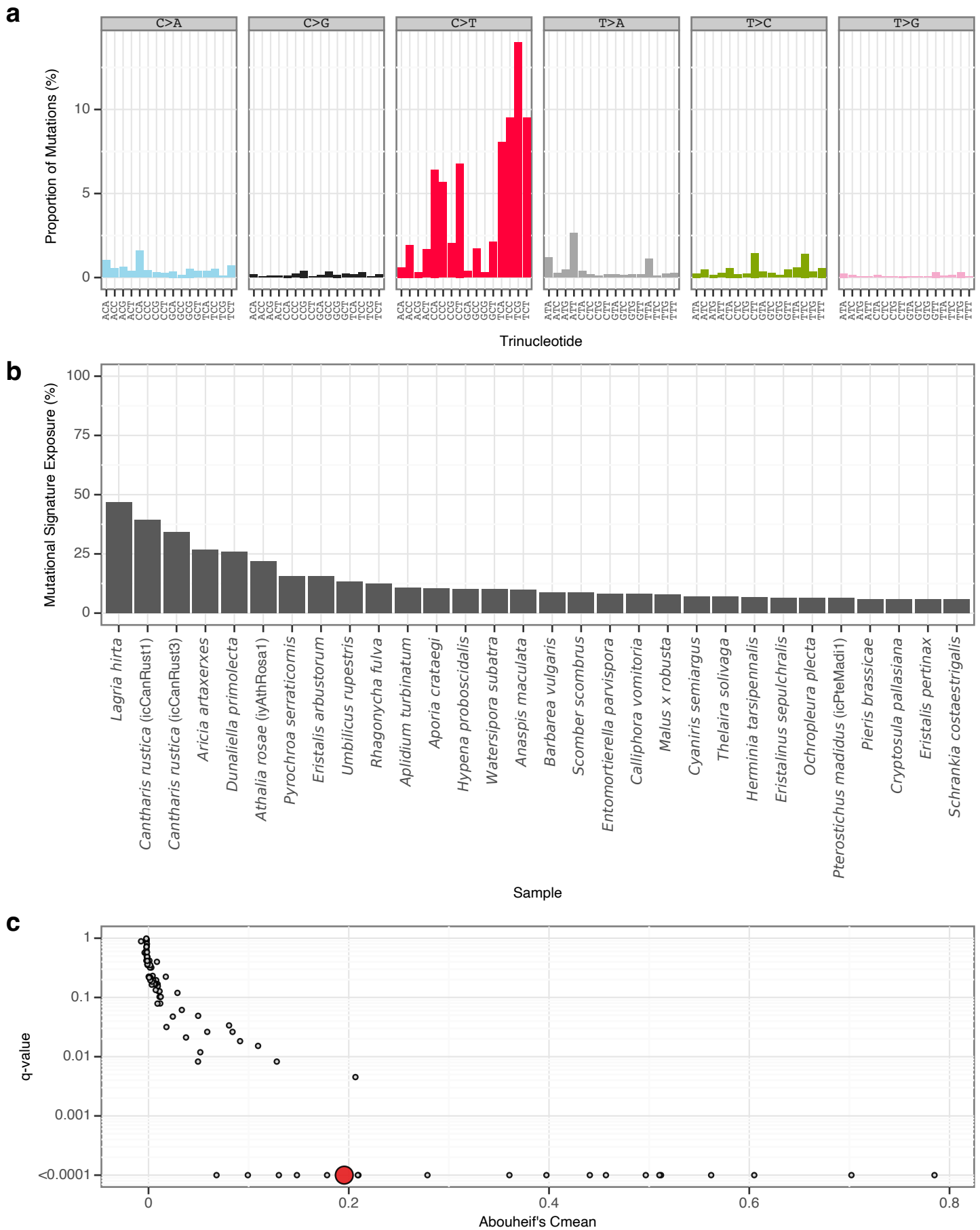


Supplementary Fig. 13 | sToL10 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

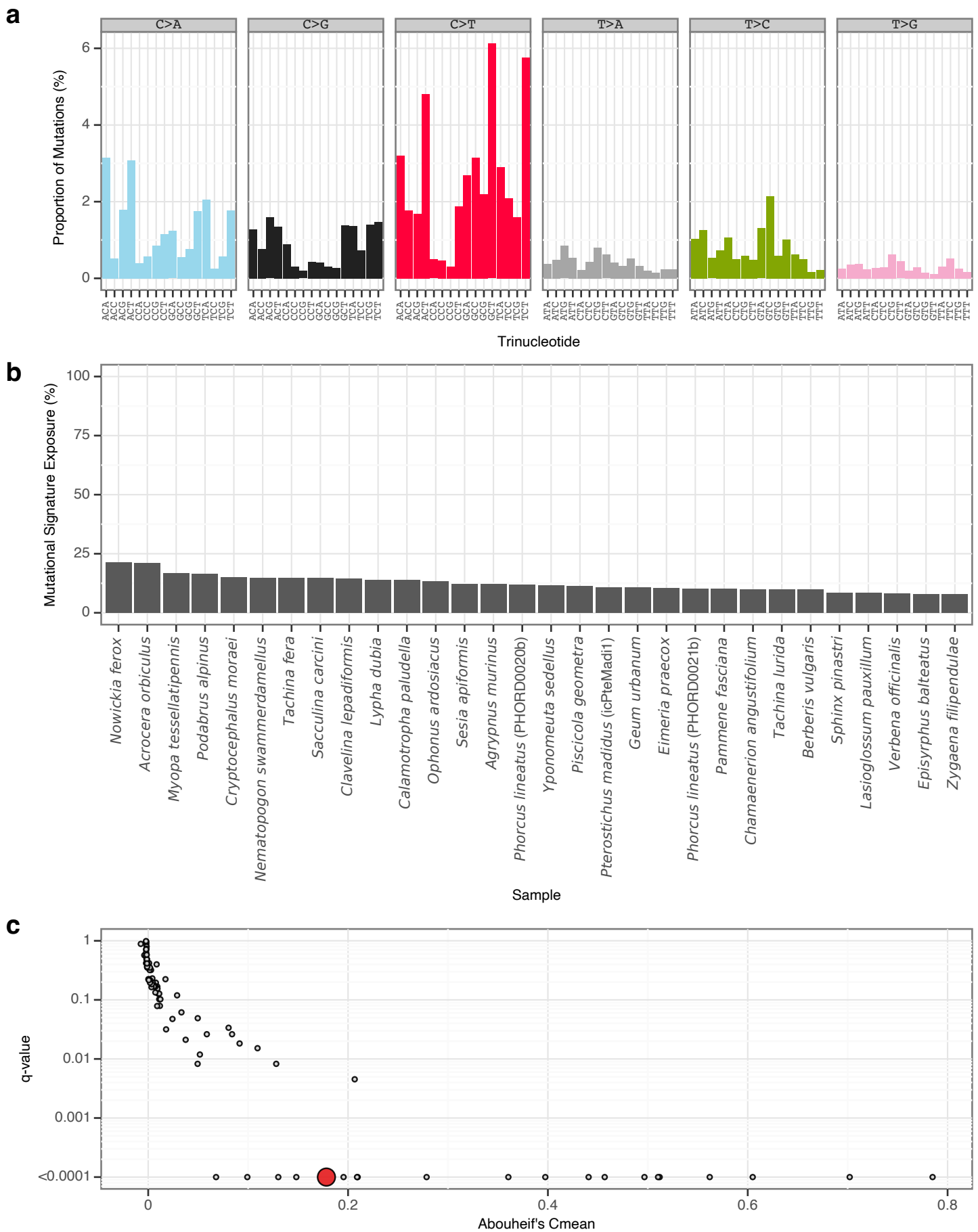


Supplementary Fig. 14 | sToL11 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

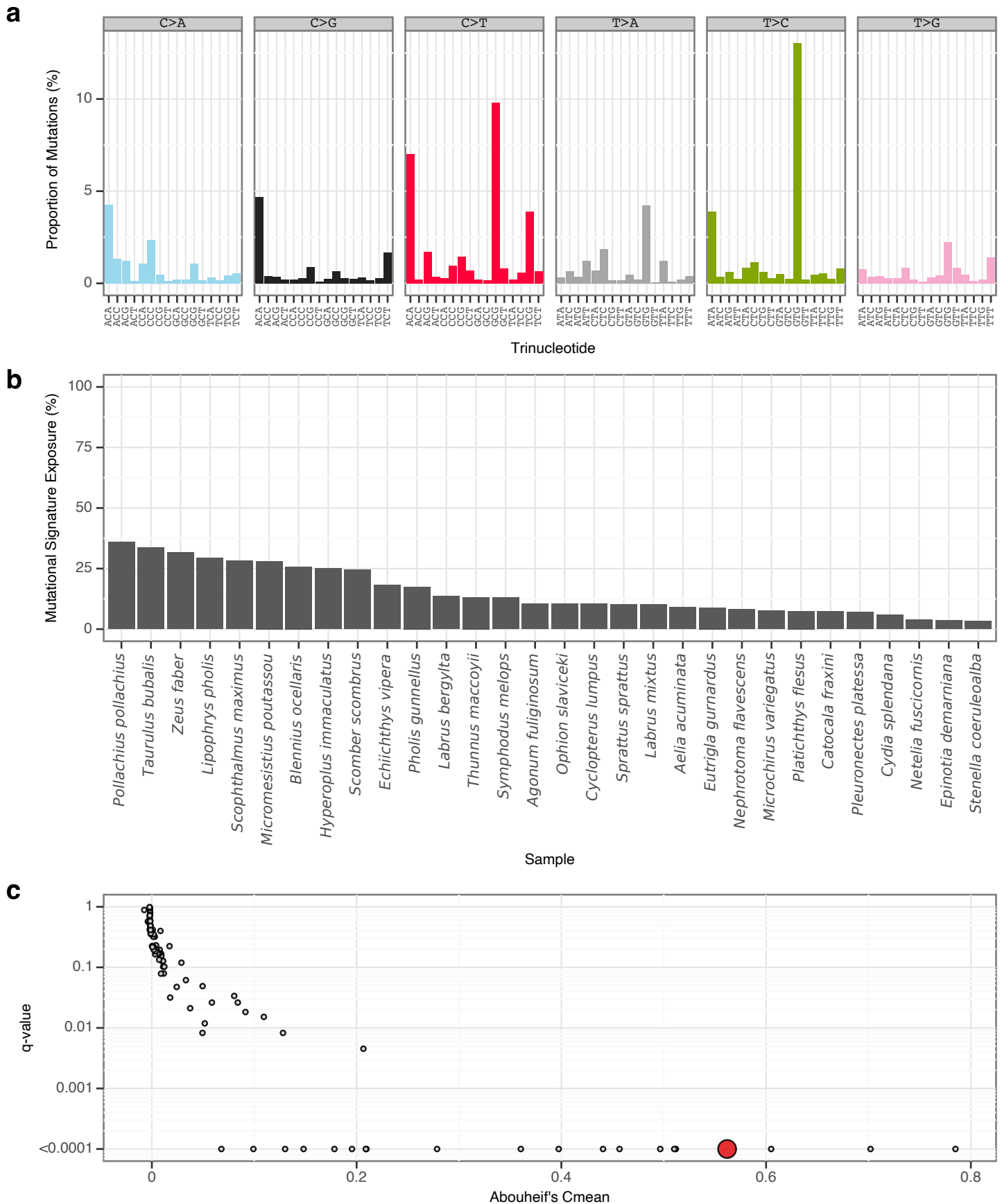


Supplementary Fig. 15 | sToL12 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

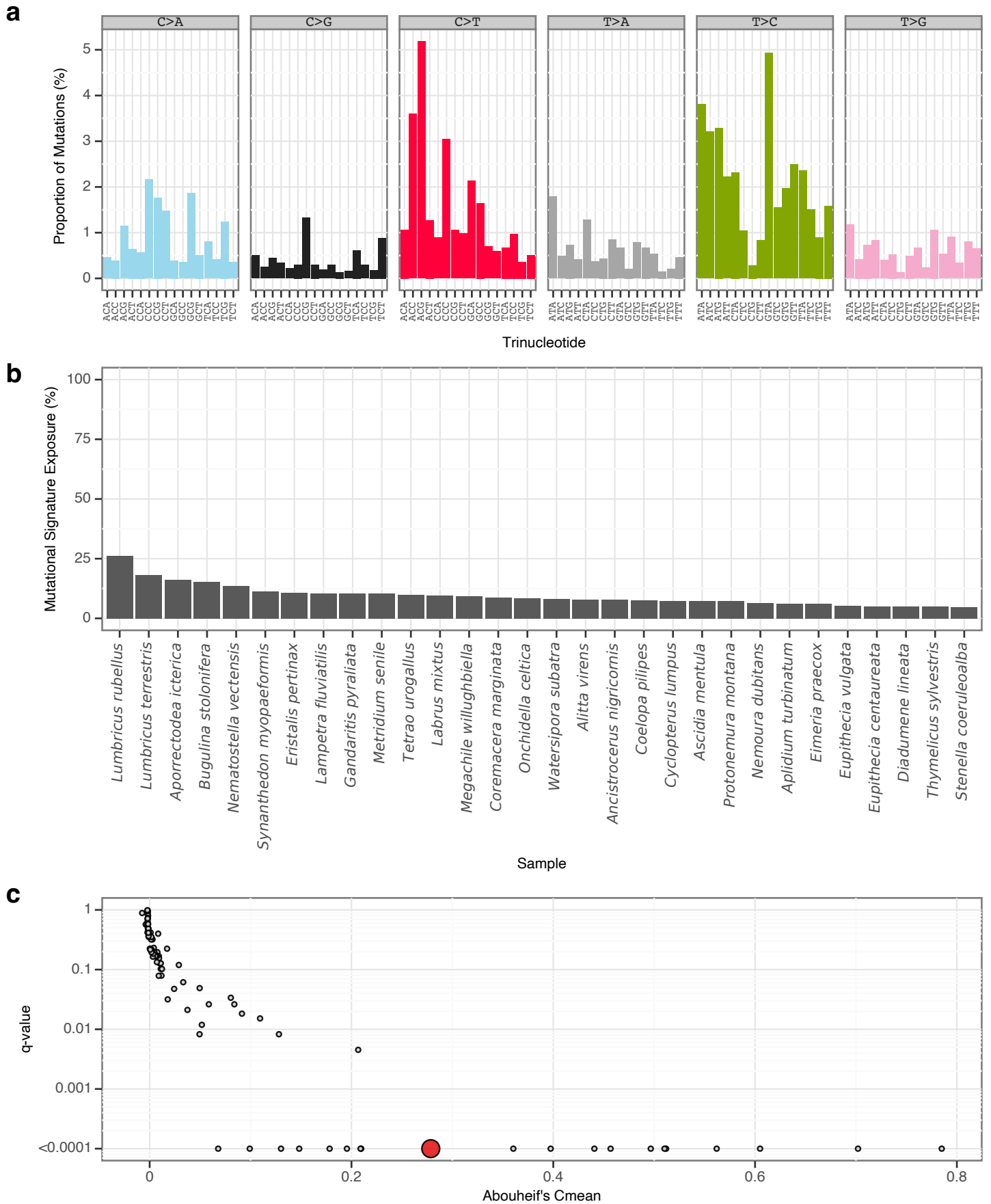


Supplementary Fig. 16 | sToL13 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

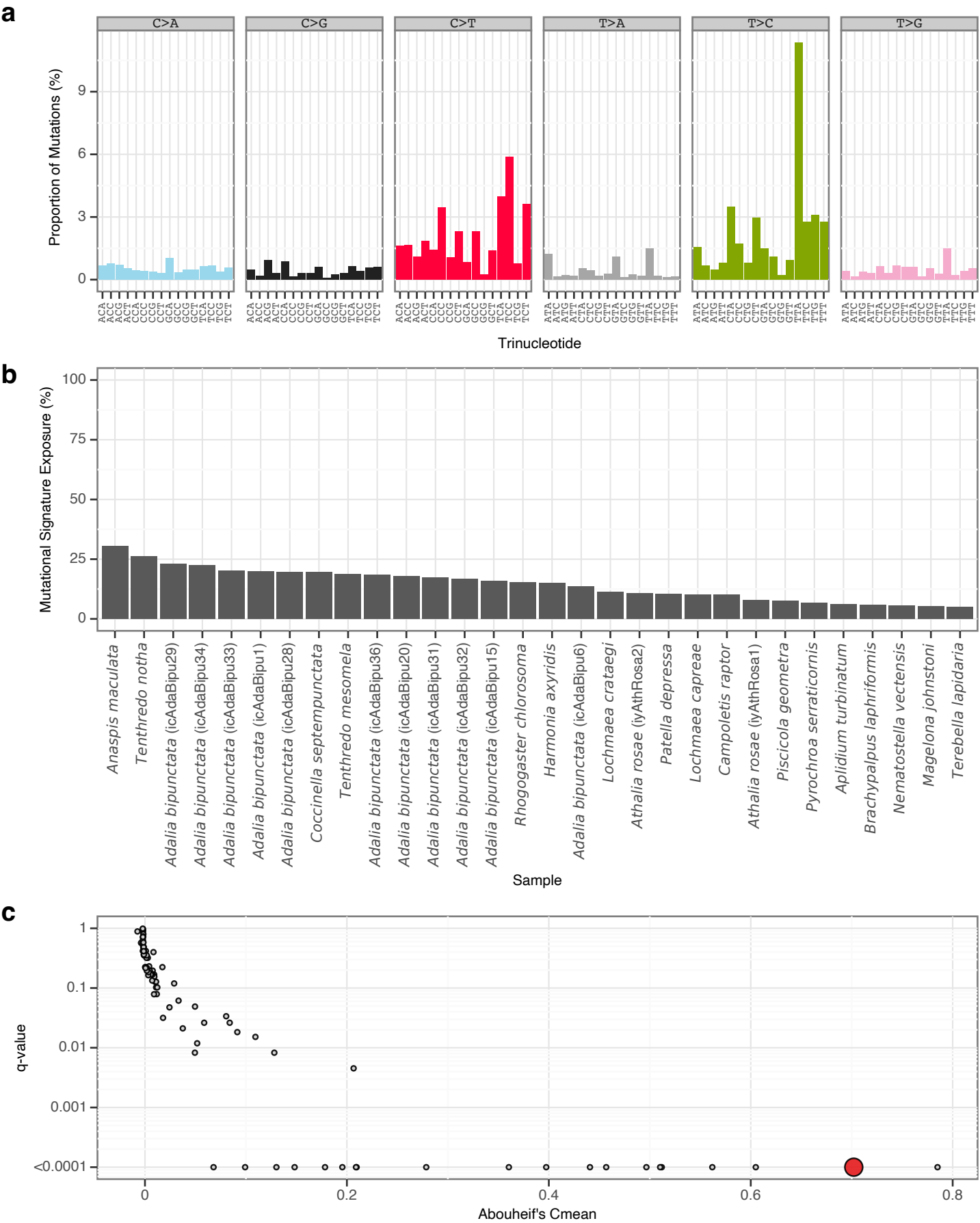


Supplementary Fig. 17 | sToL14 mutational signature.

a, Mutational signature spectrum.

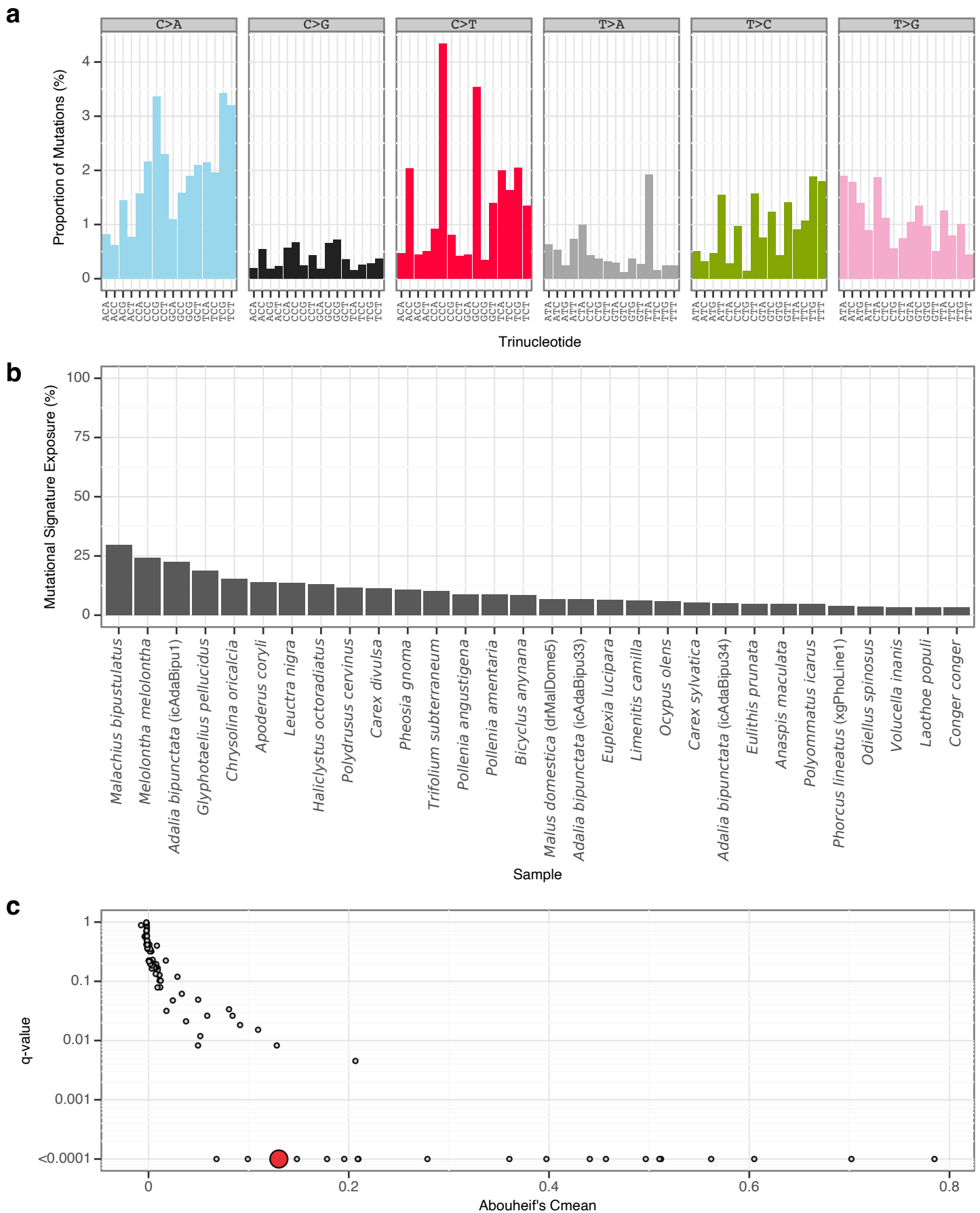
b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.



Supplementary Fig. 18 | sToL15 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.

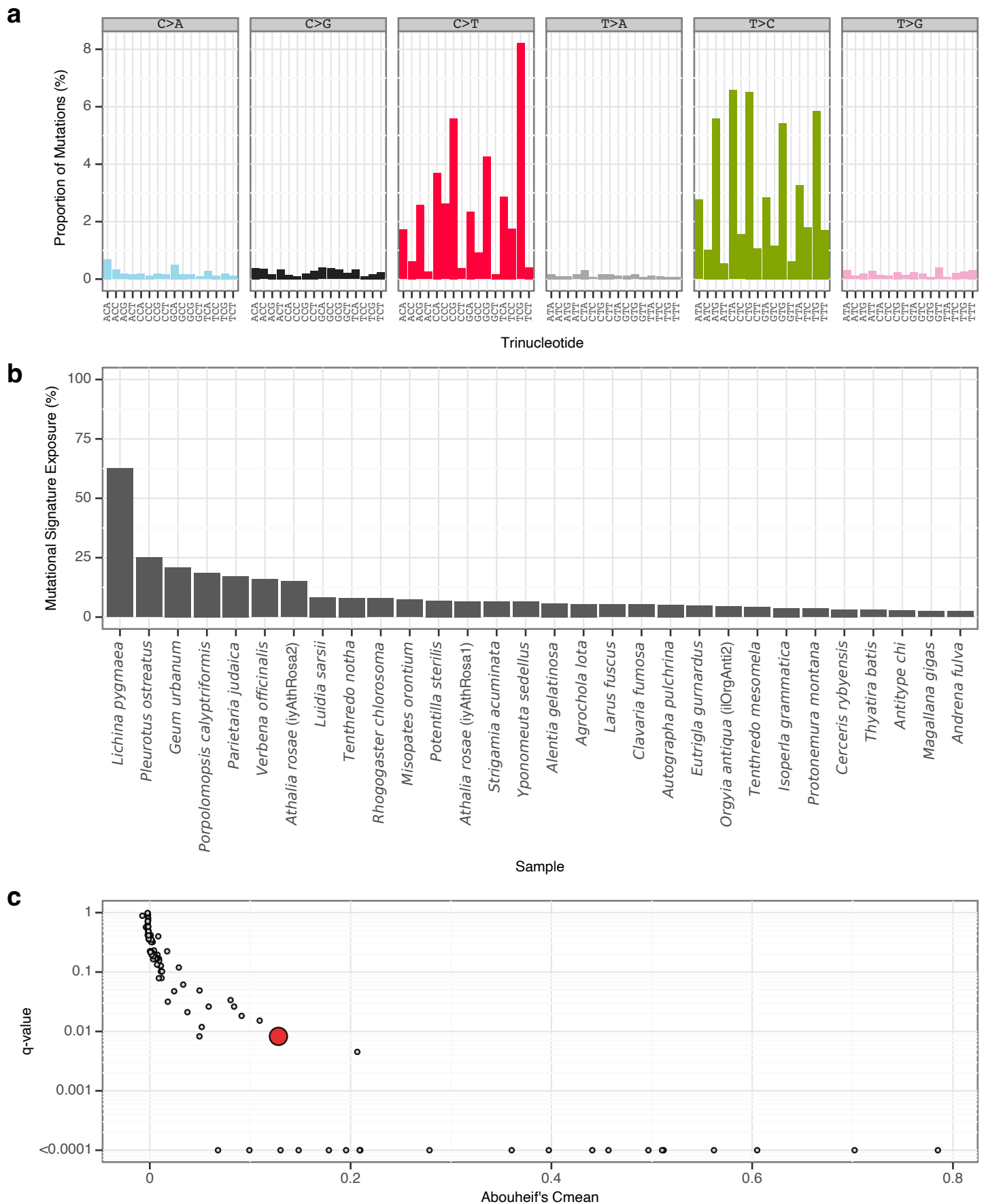


Supplementary Fig. 19 | sToL16 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

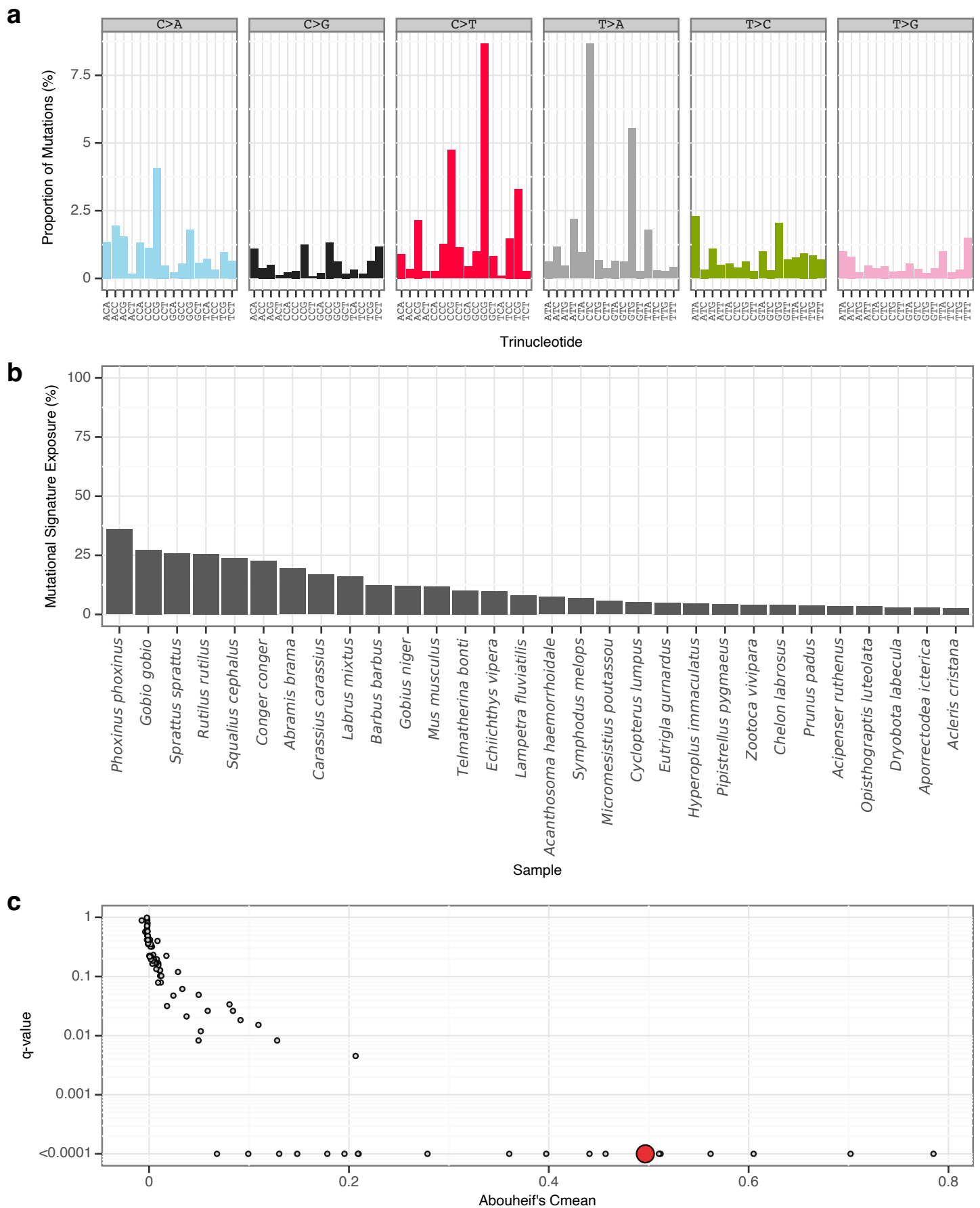


Supplementary Fig. 20 | sToL17 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

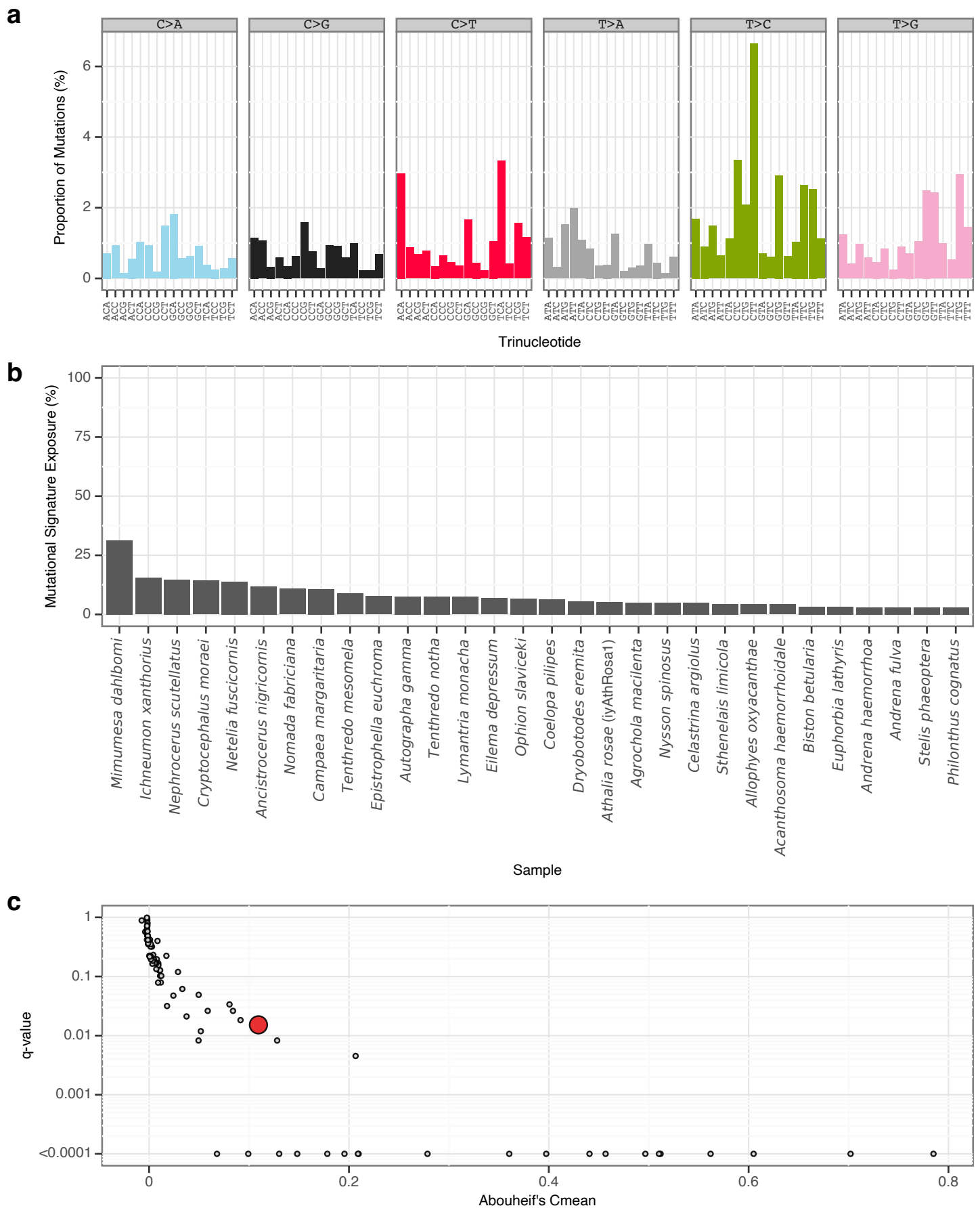


Supplementary Fig. 21 | sToL18 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

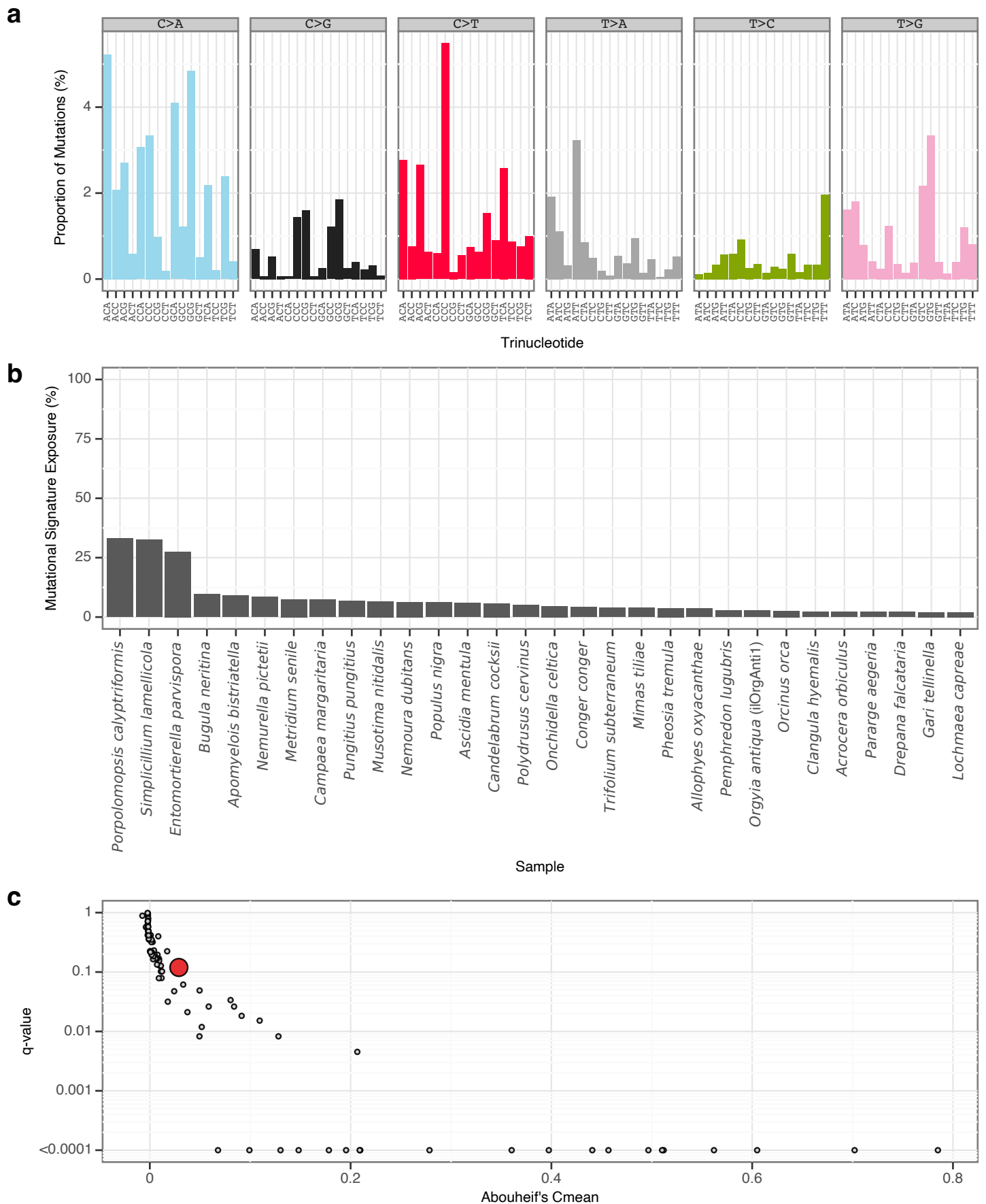


Supplementary Fig. 22 | sToL19 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

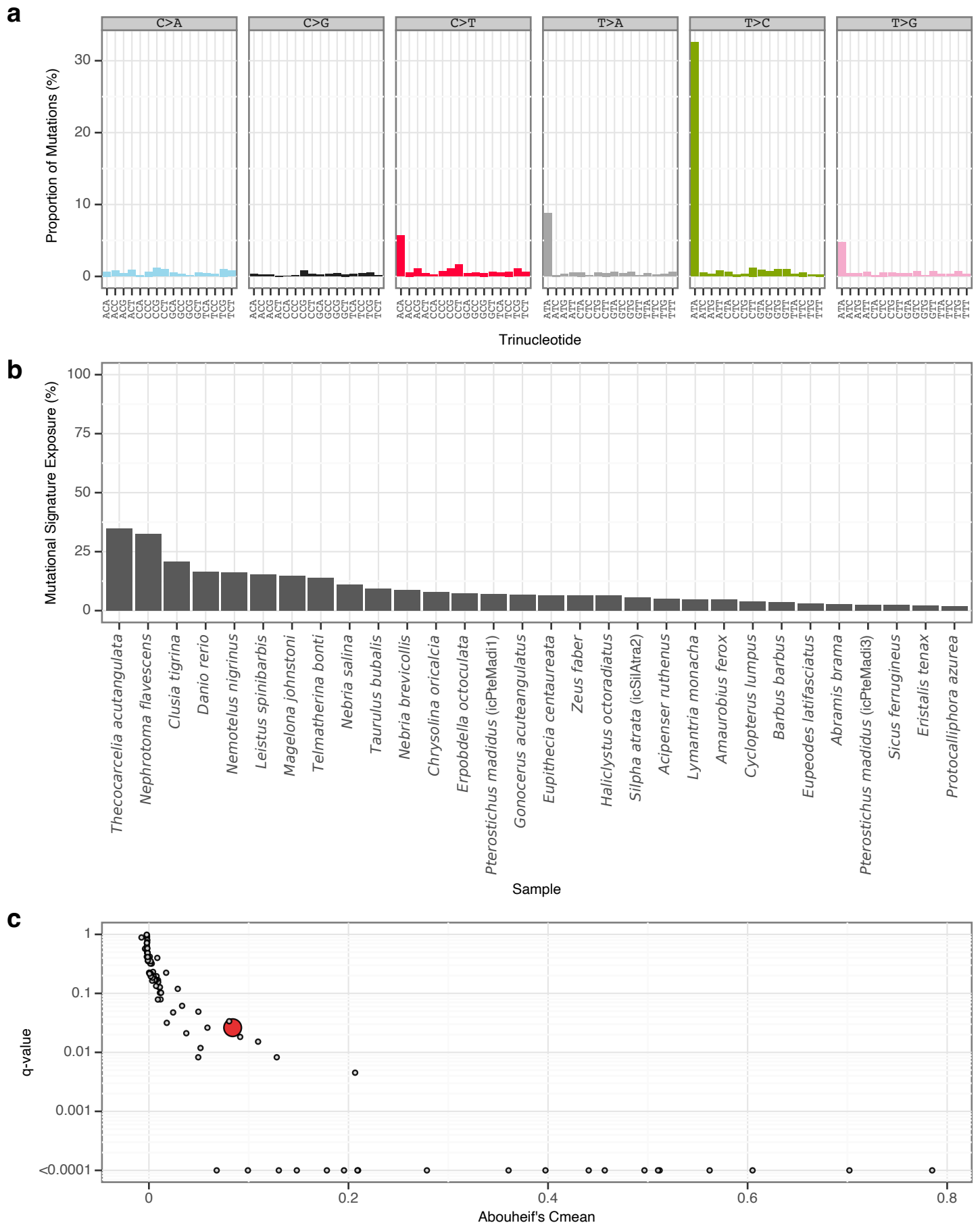


Supplementary Fig. 23 | sToL20 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

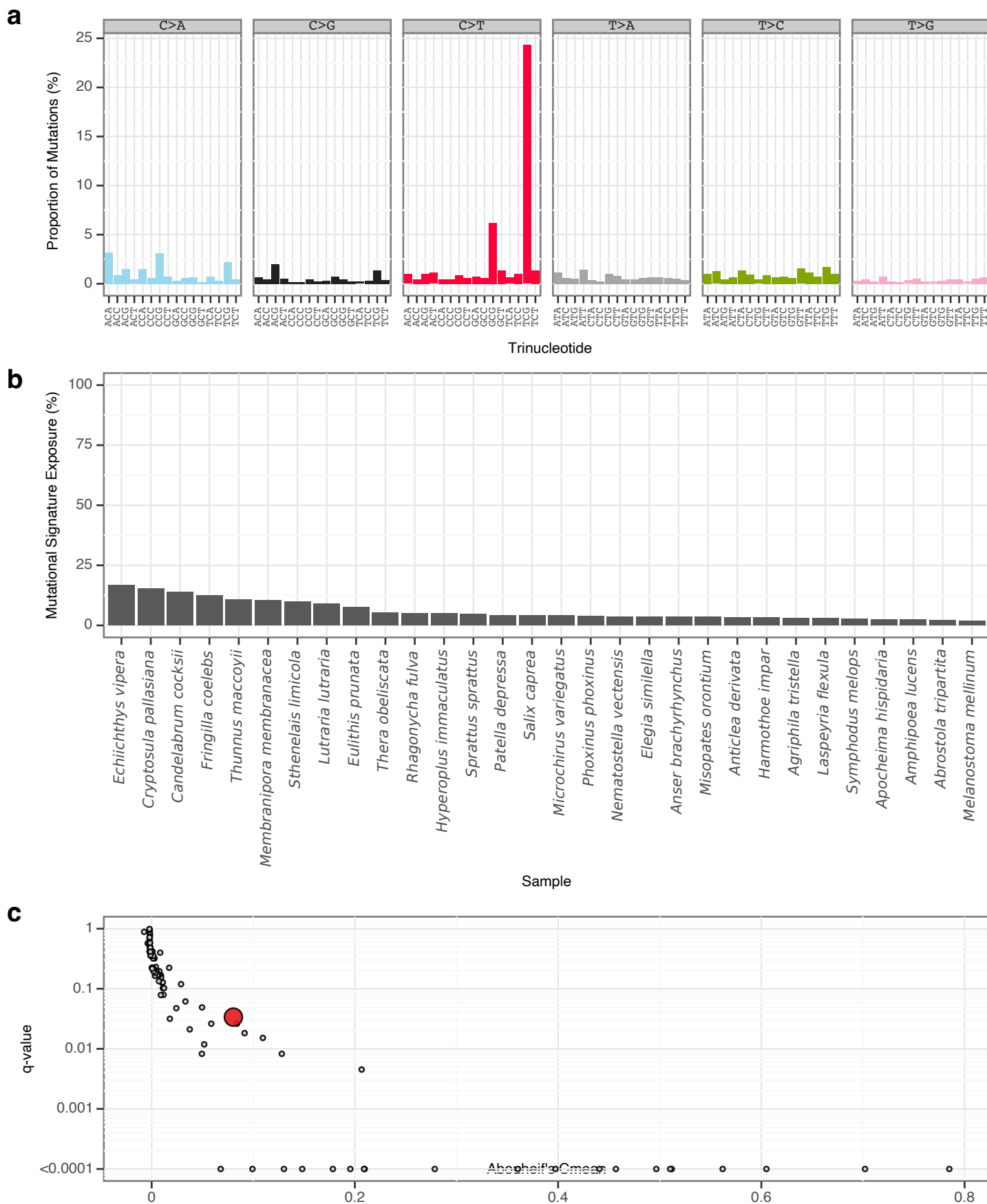


Supplementary Fig. 24 | sToL21 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

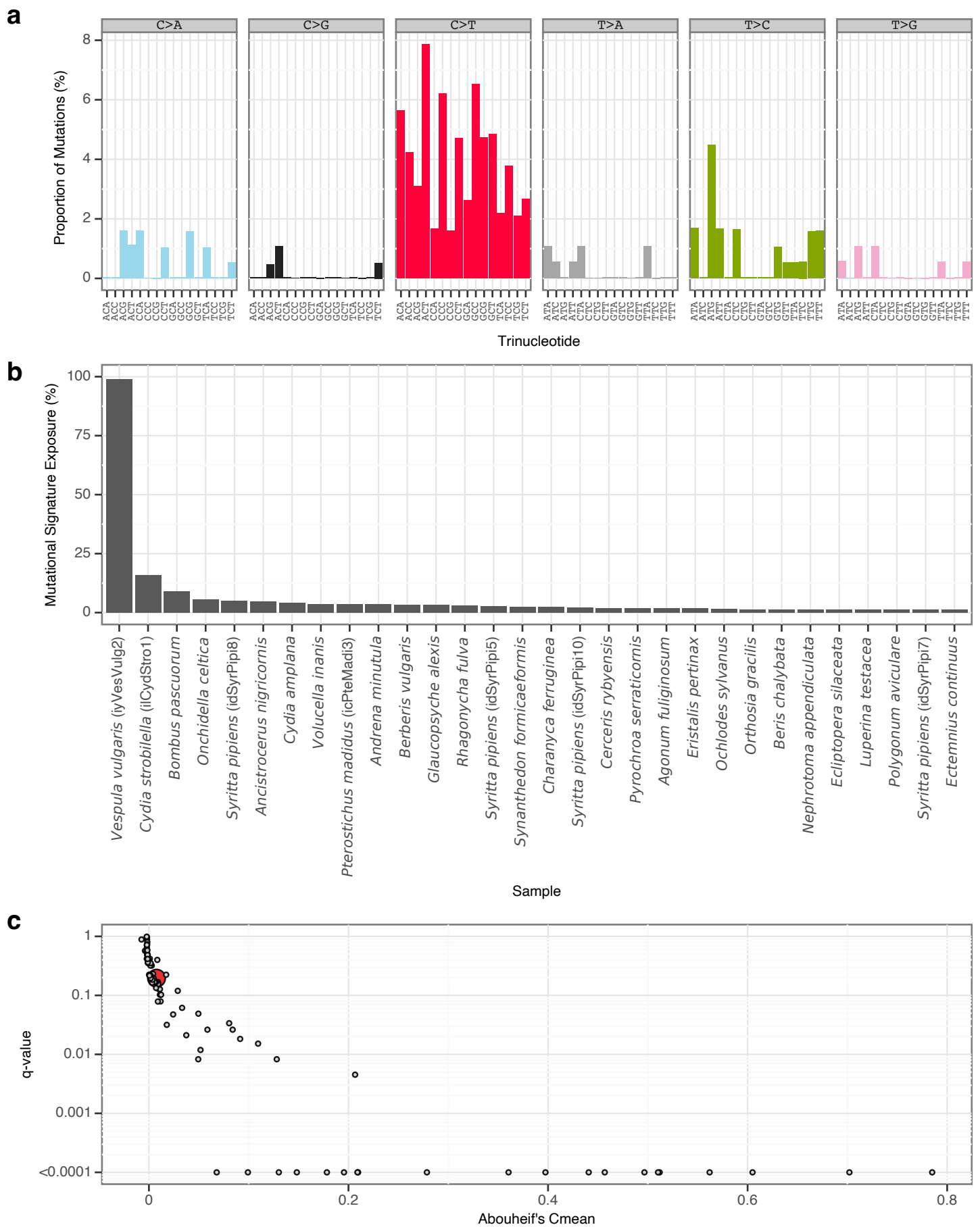


Supplementary Fig. 25 | sToL22 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

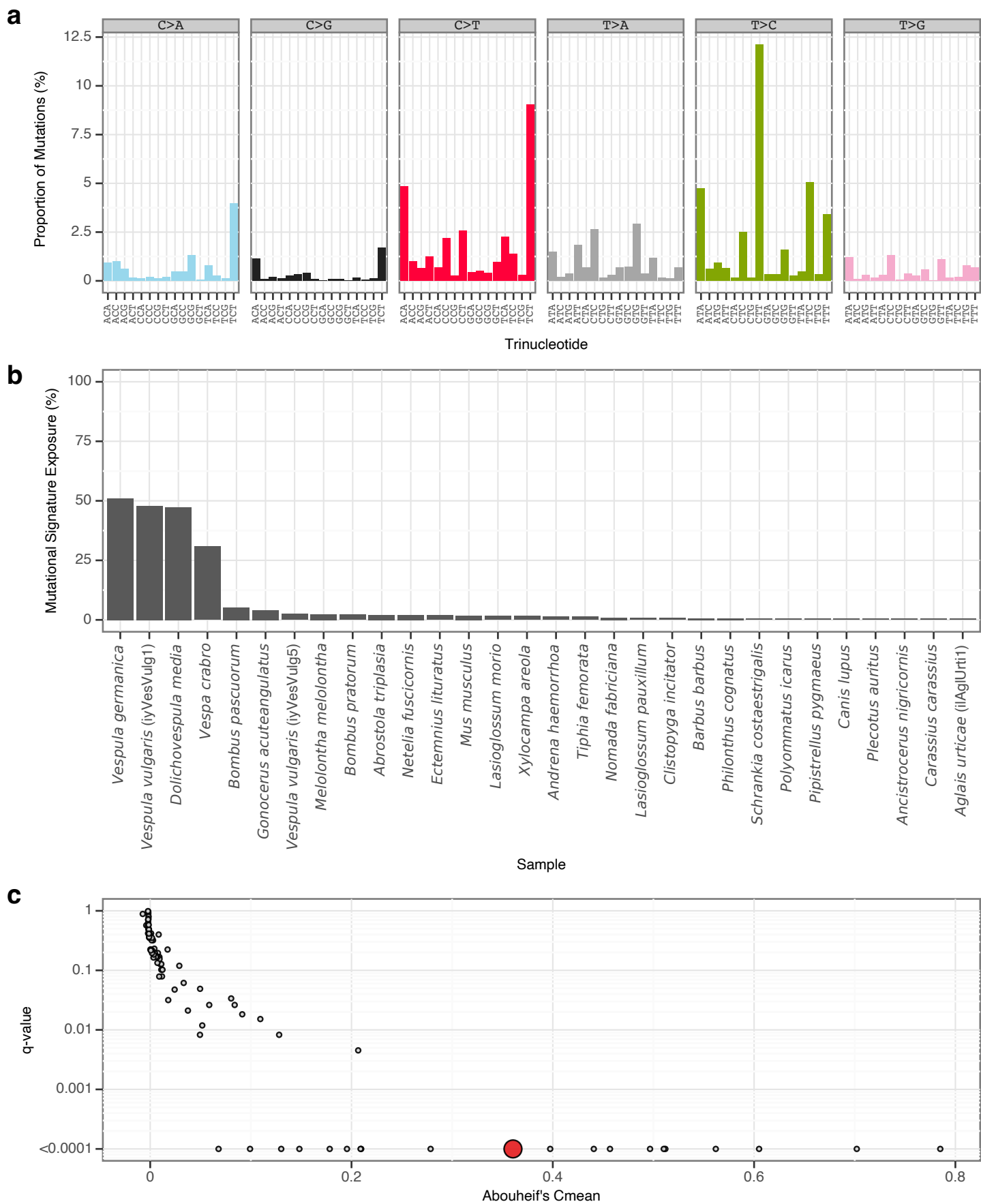


Supplementary Fig. 26 | sToL23 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

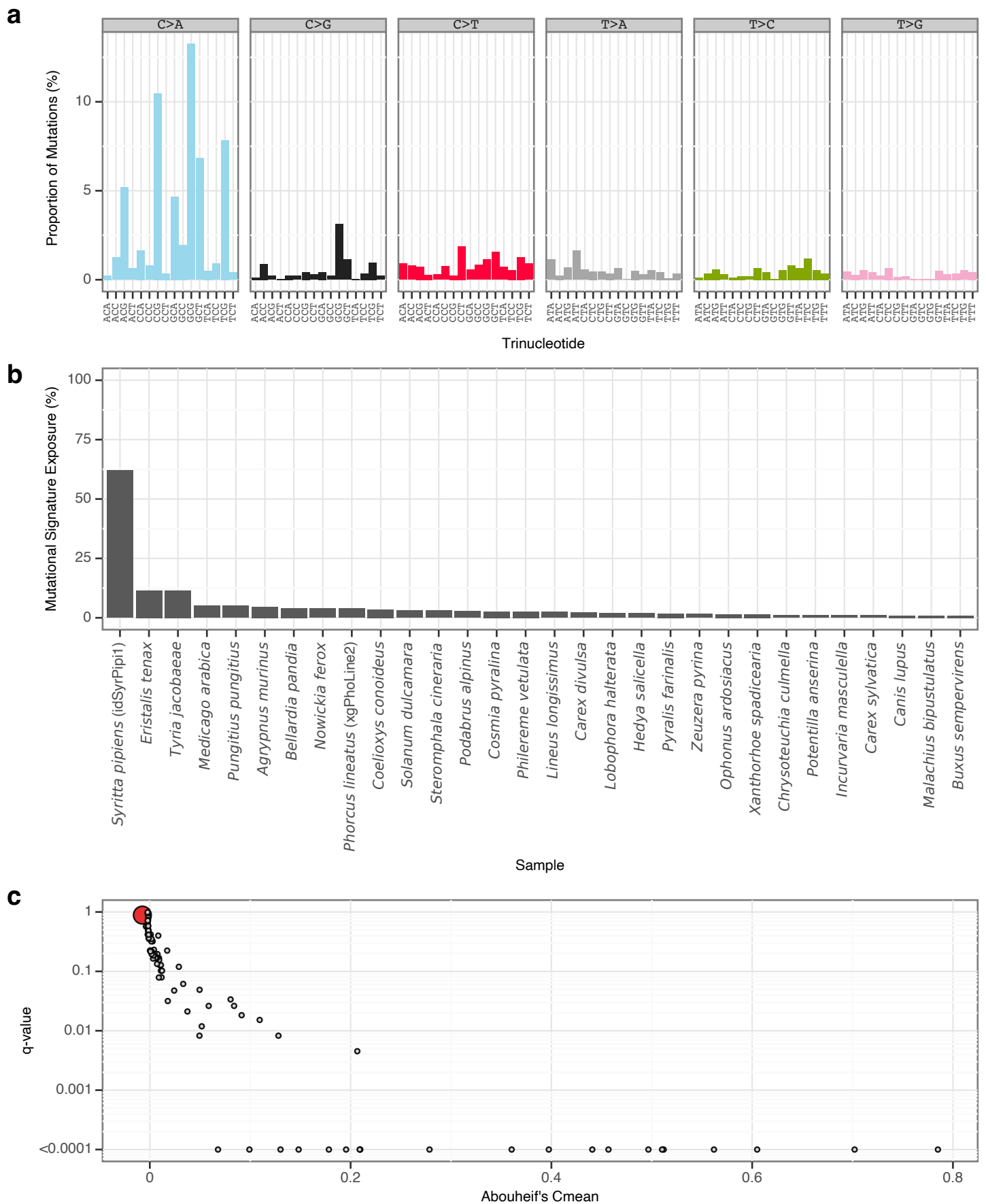


Supplementary Fig. 27 | sToL24 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

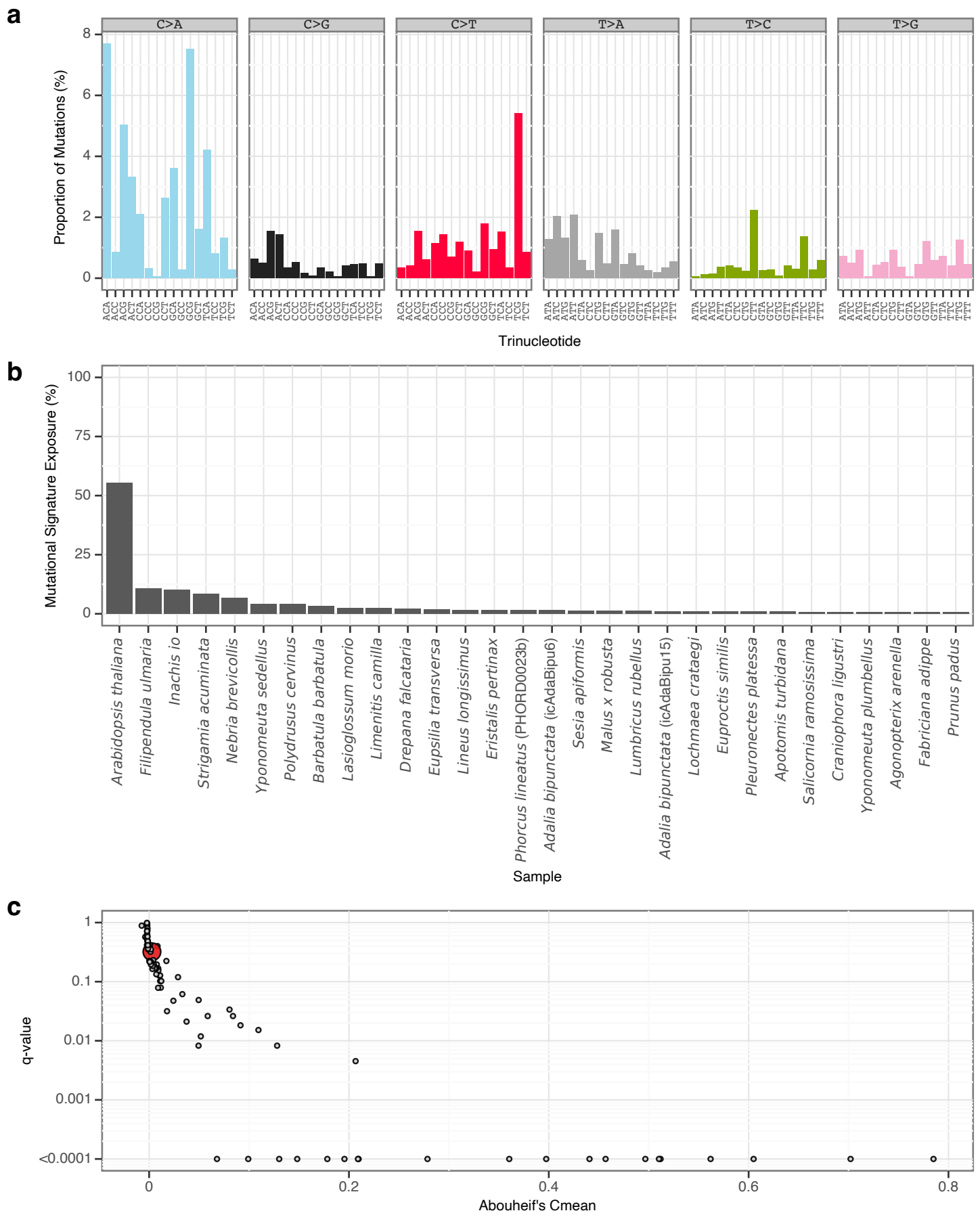


Supplementary Fig. 28 | sToL25 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

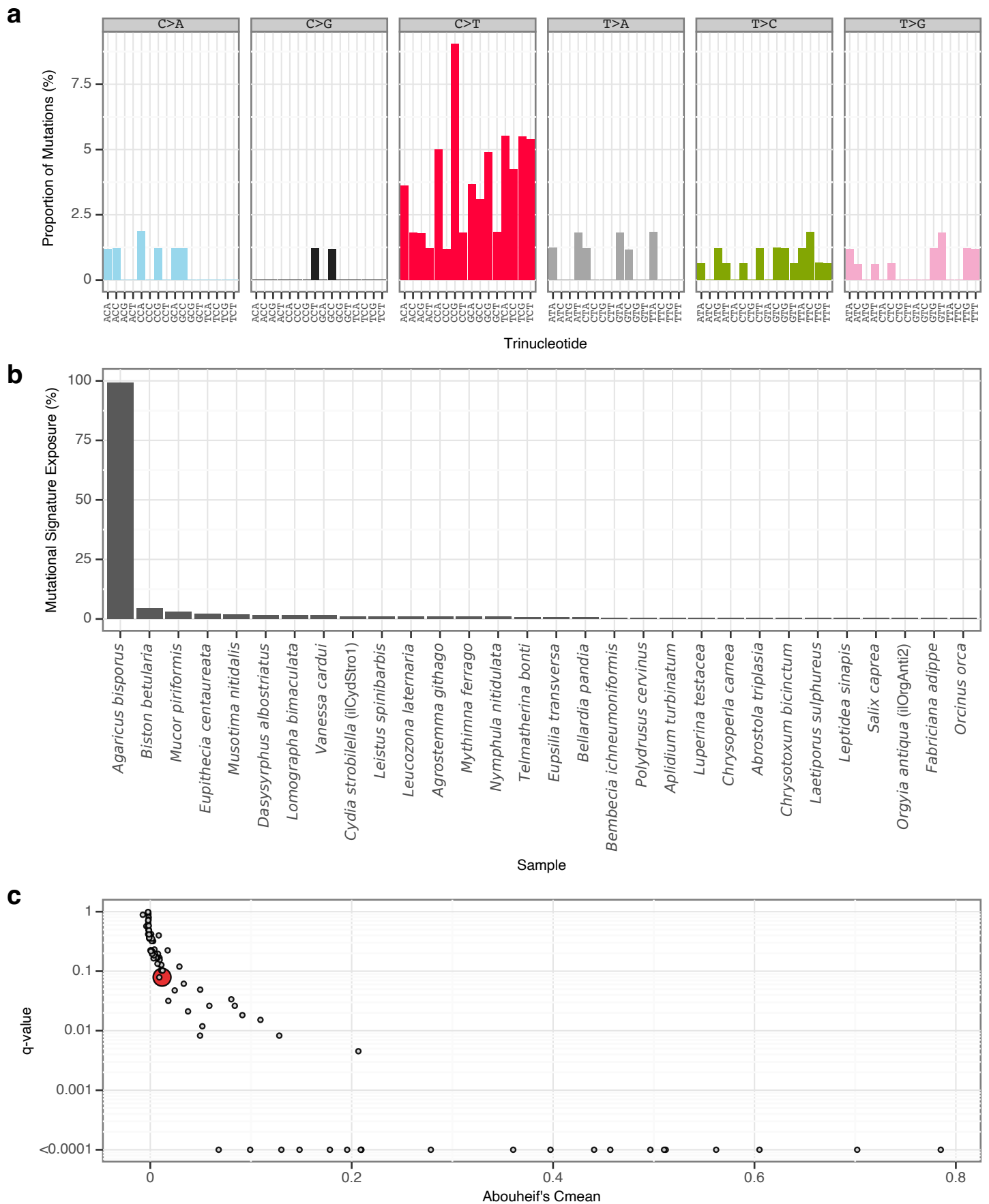


Supplementary Fig. 29 | sToL26 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

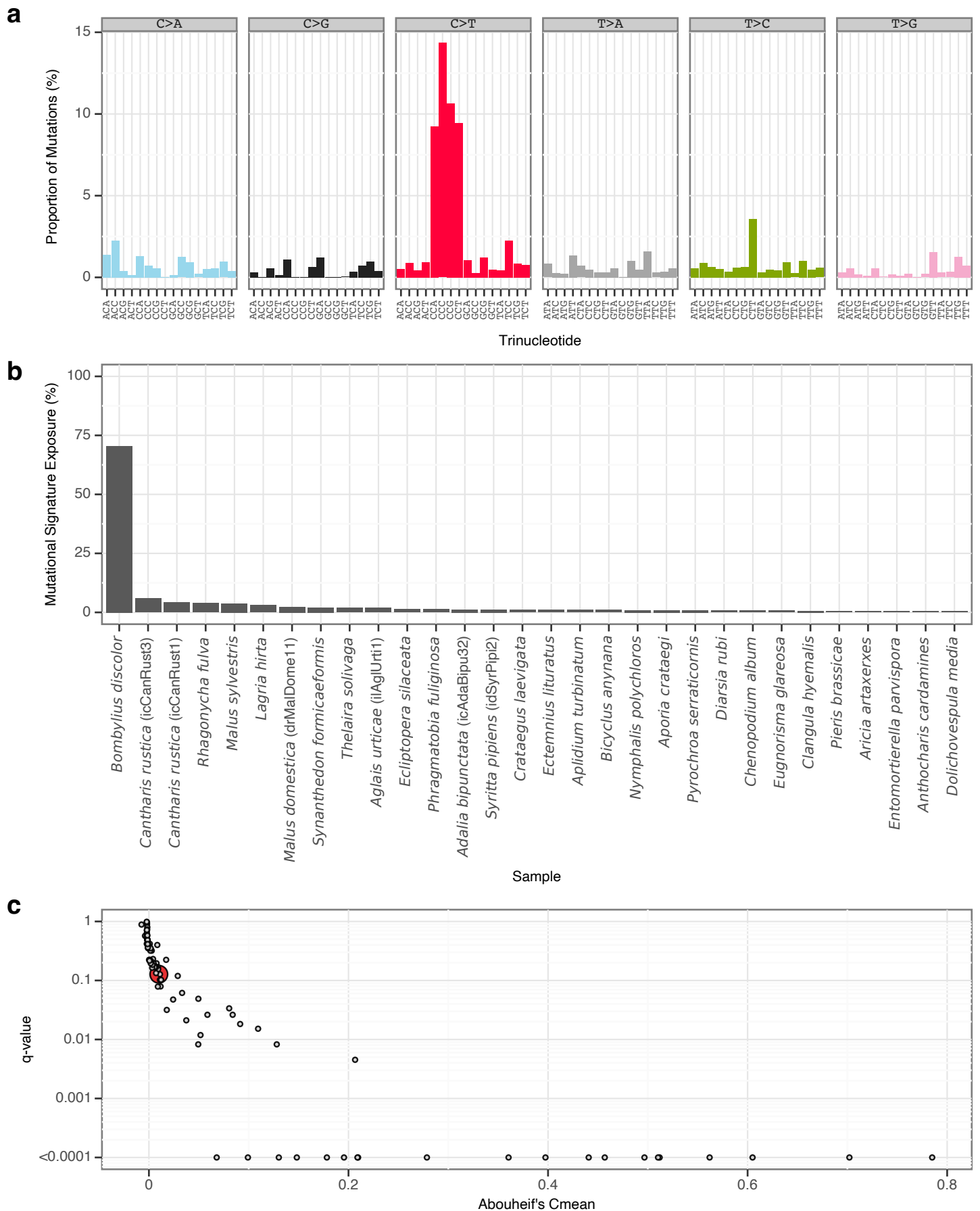


Supplementary Fig. 30 | sToL27 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

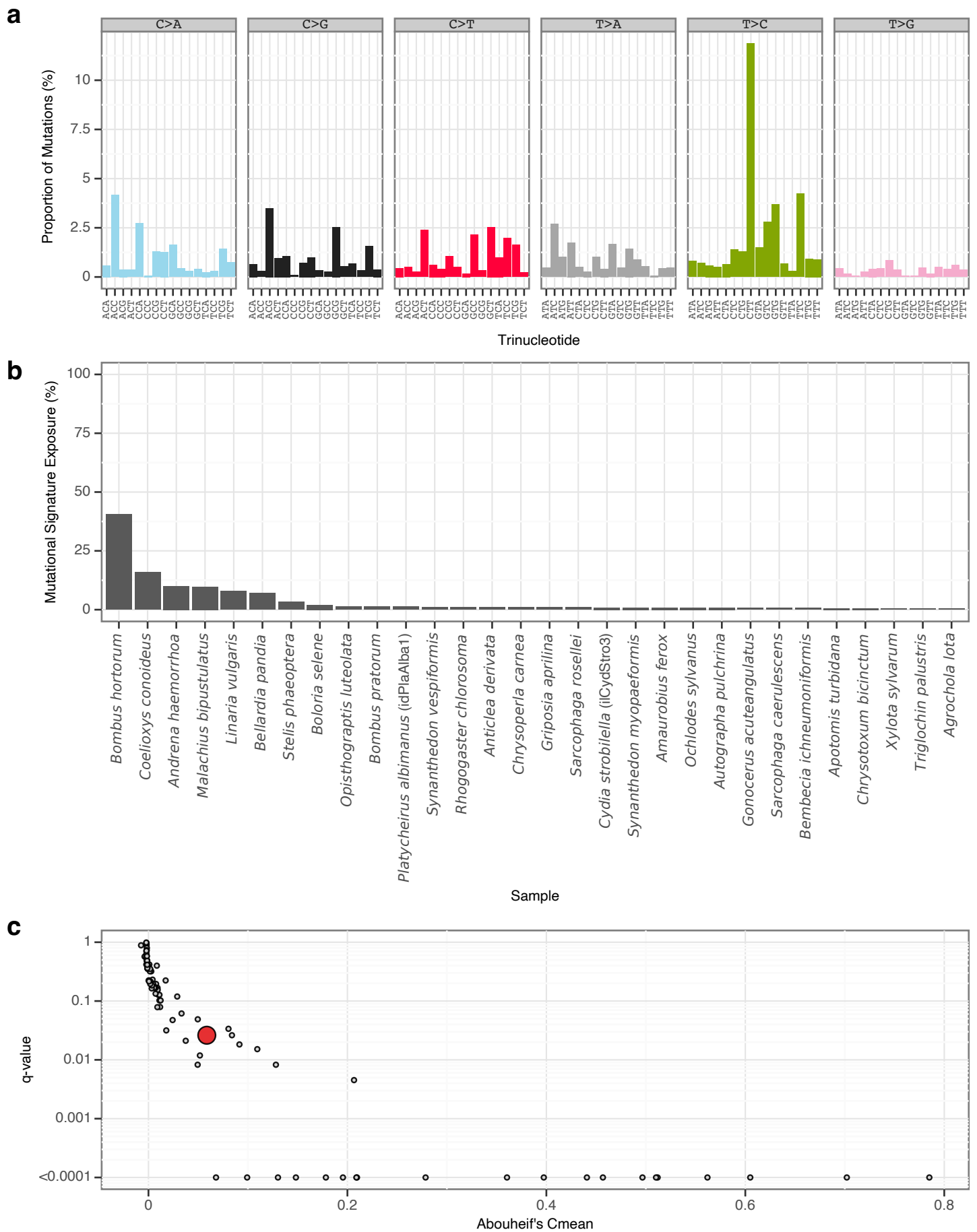


Supplementary Fig. 31 | sToL28 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

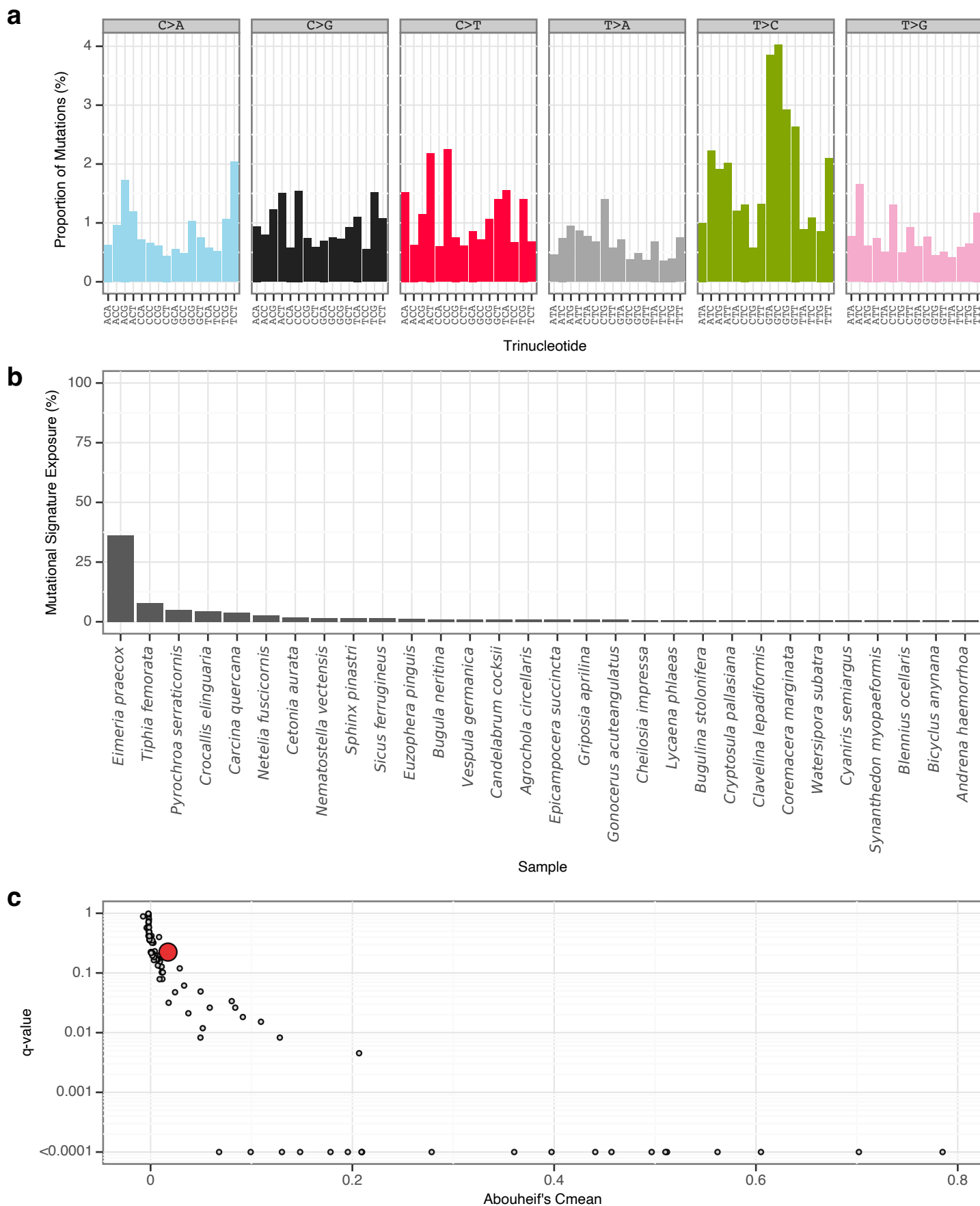


Supplementary Fig. 32 | sToL29 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

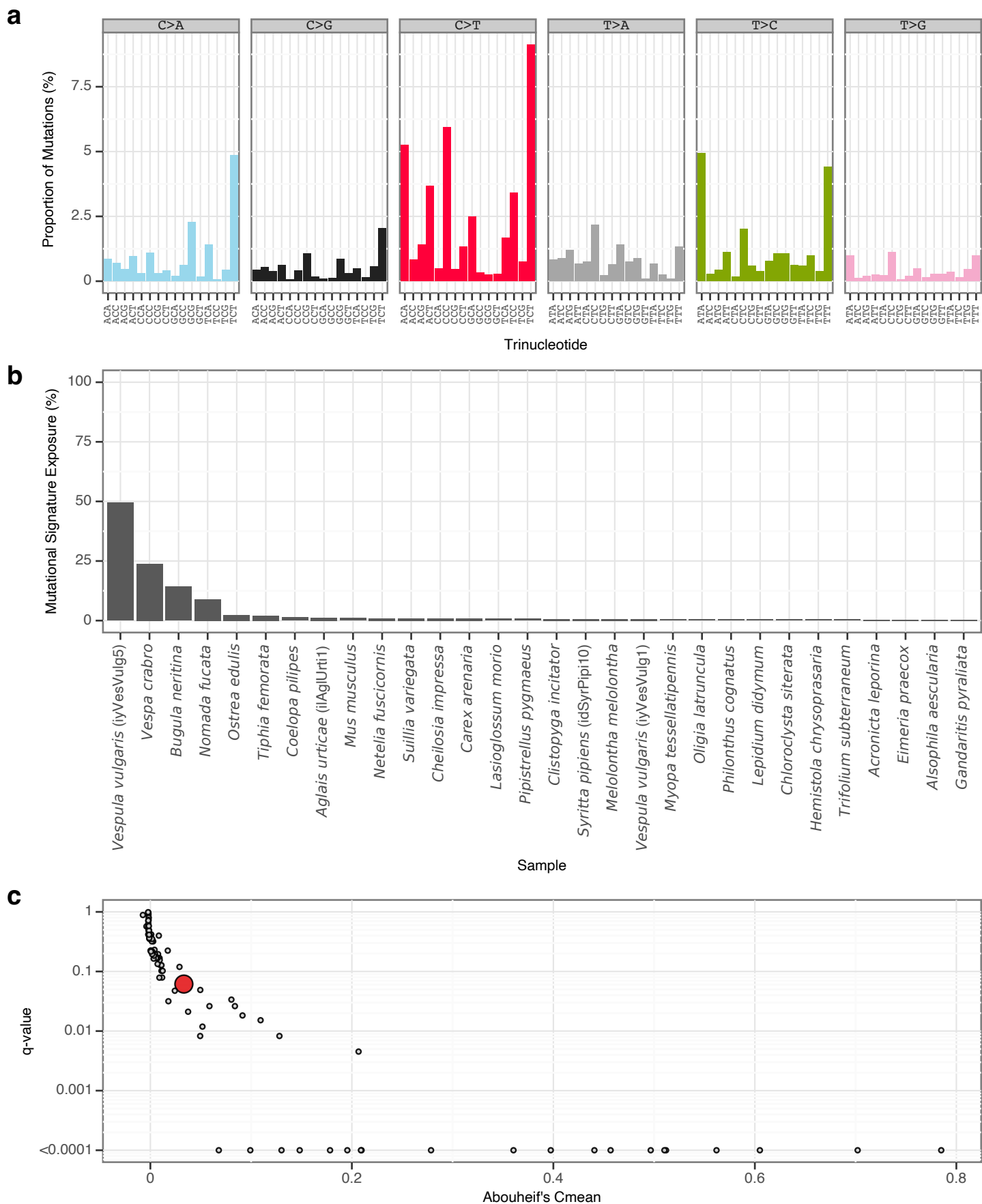


Supplementary Fig. 33 | sToL30 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

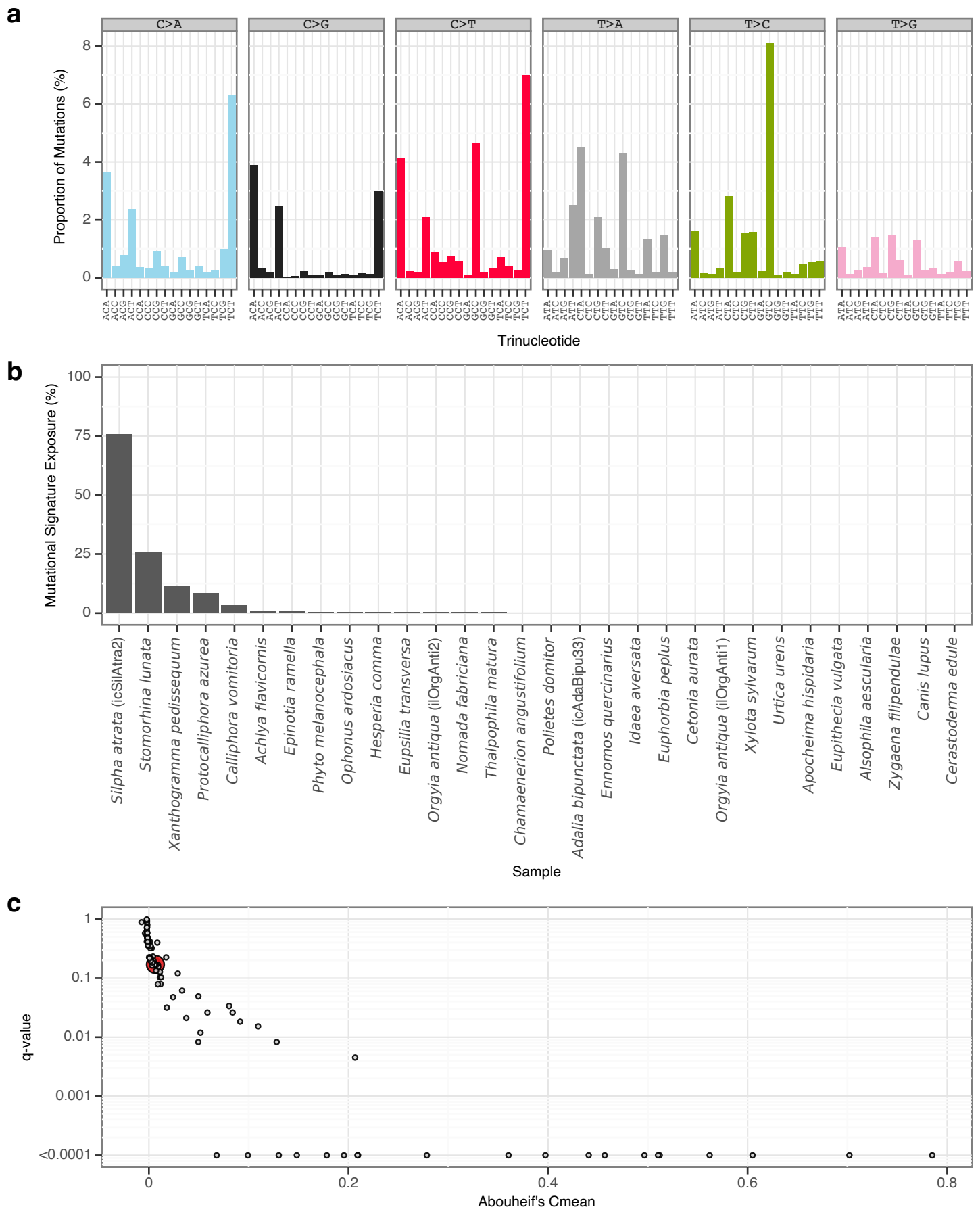


Supplementary Fig. 34 | sToL31 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

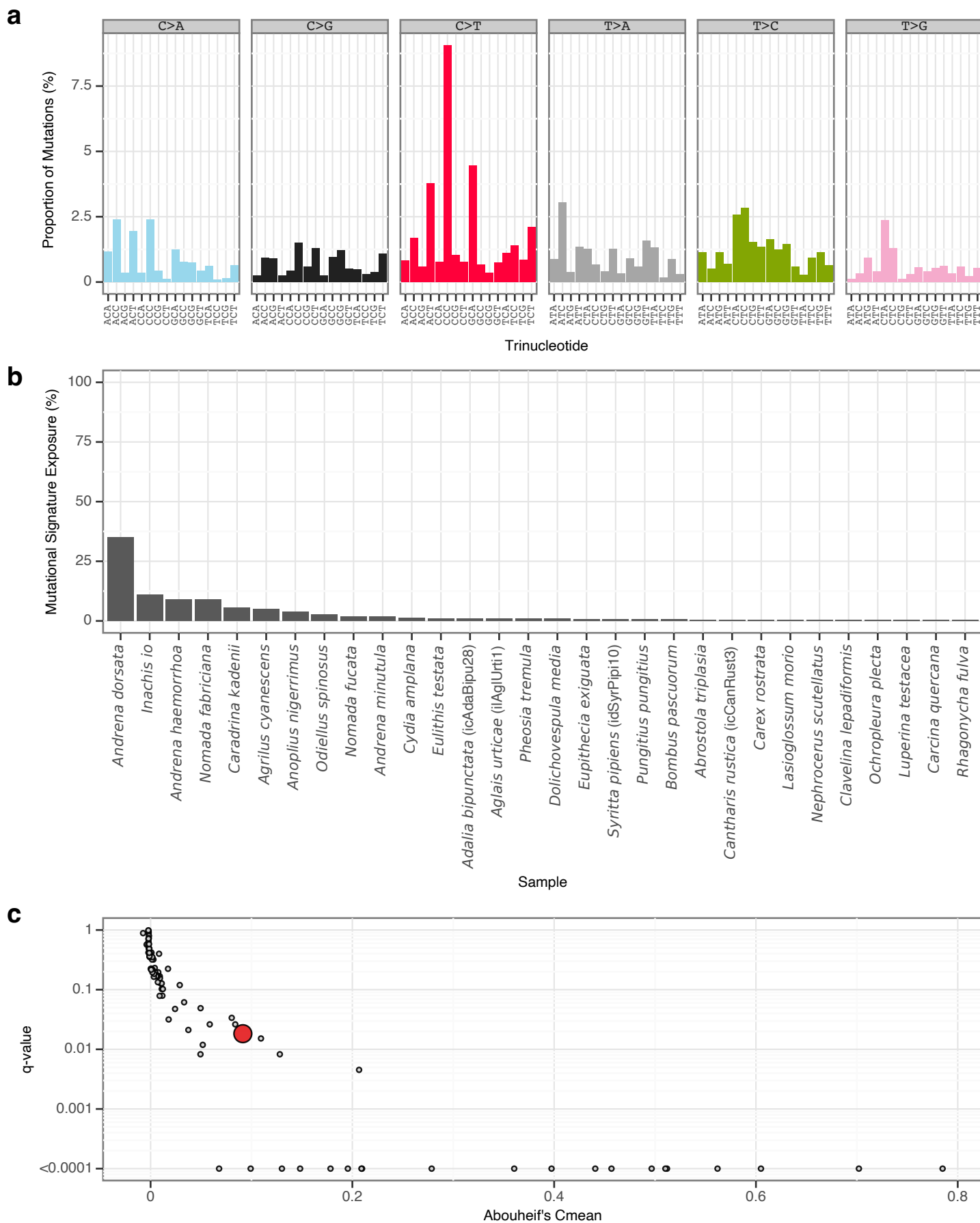


Supplementary Fig. 35 | sToL32 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

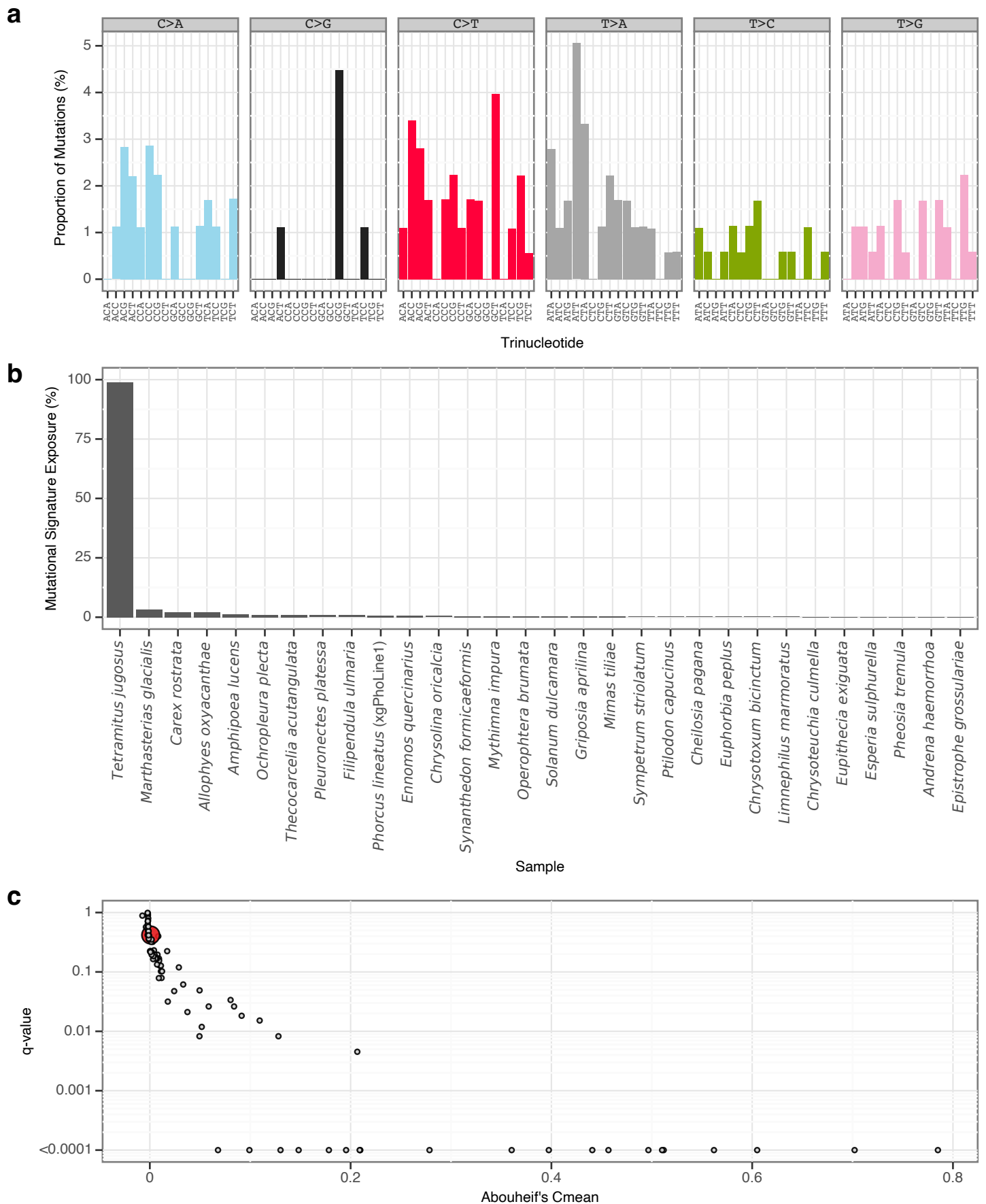


Supplementary Fig. 36 | sToL33 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

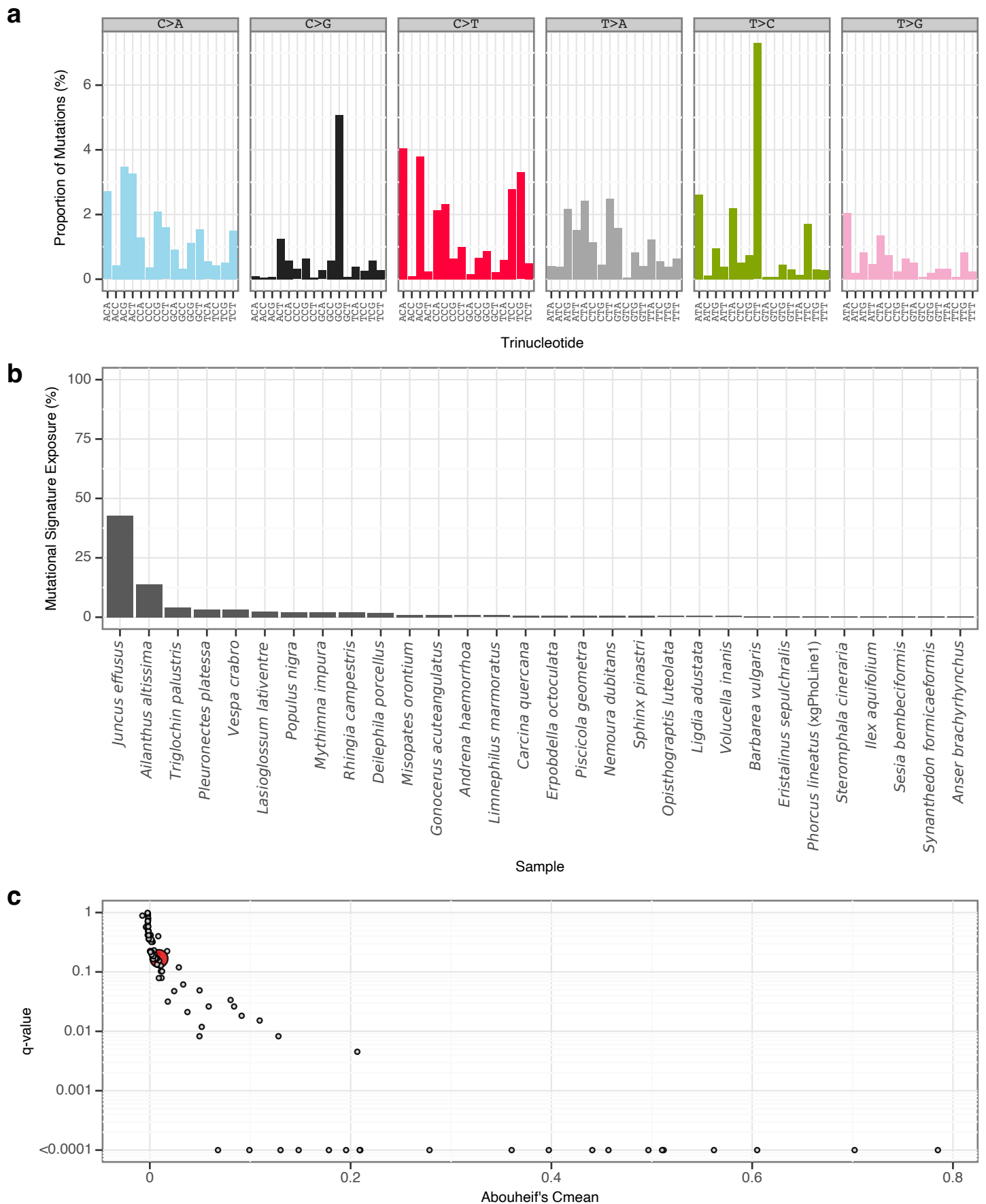


Supplementary Fig. 37 | sToL34 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

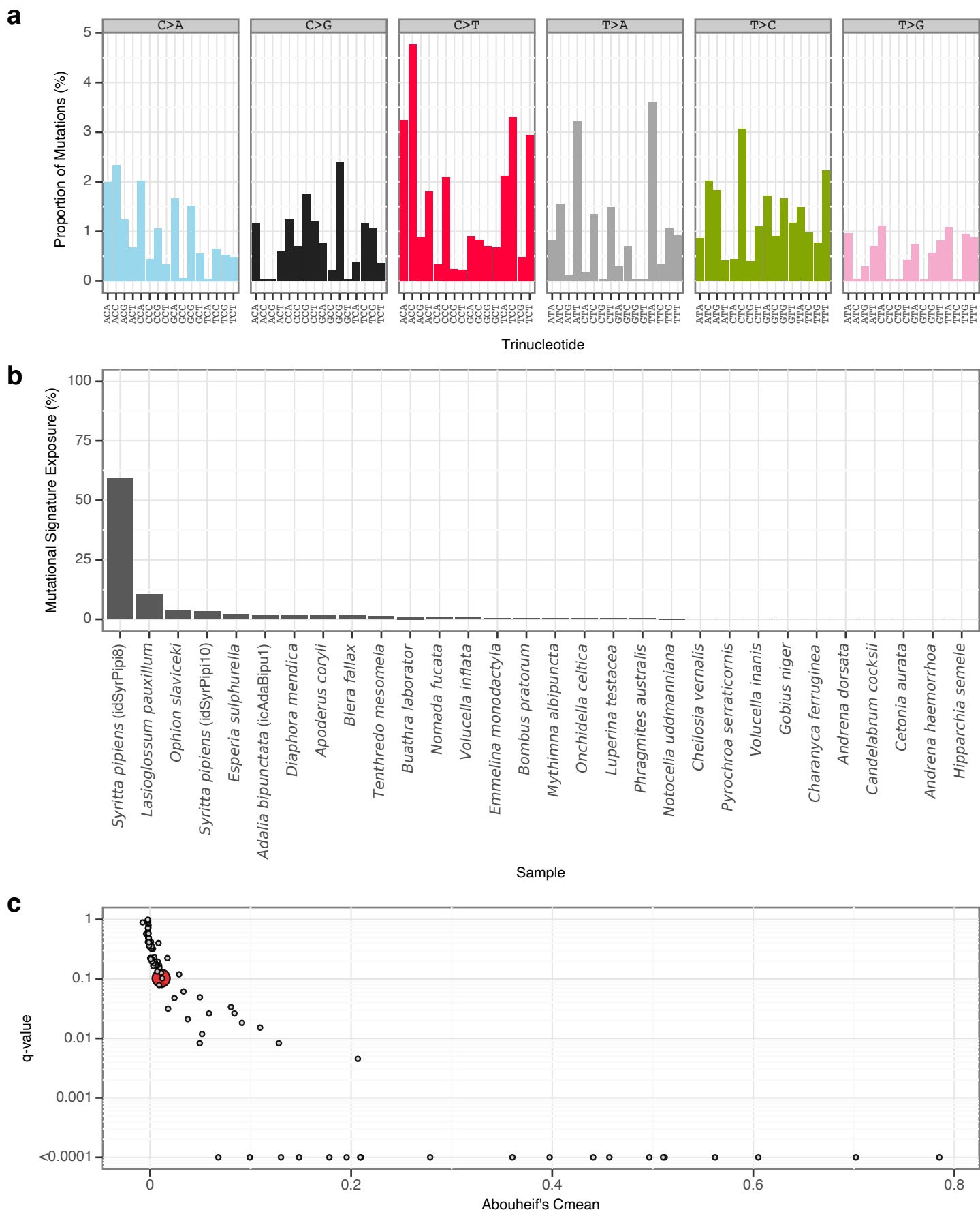


Supplementary Fig. 38 | sToL35 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

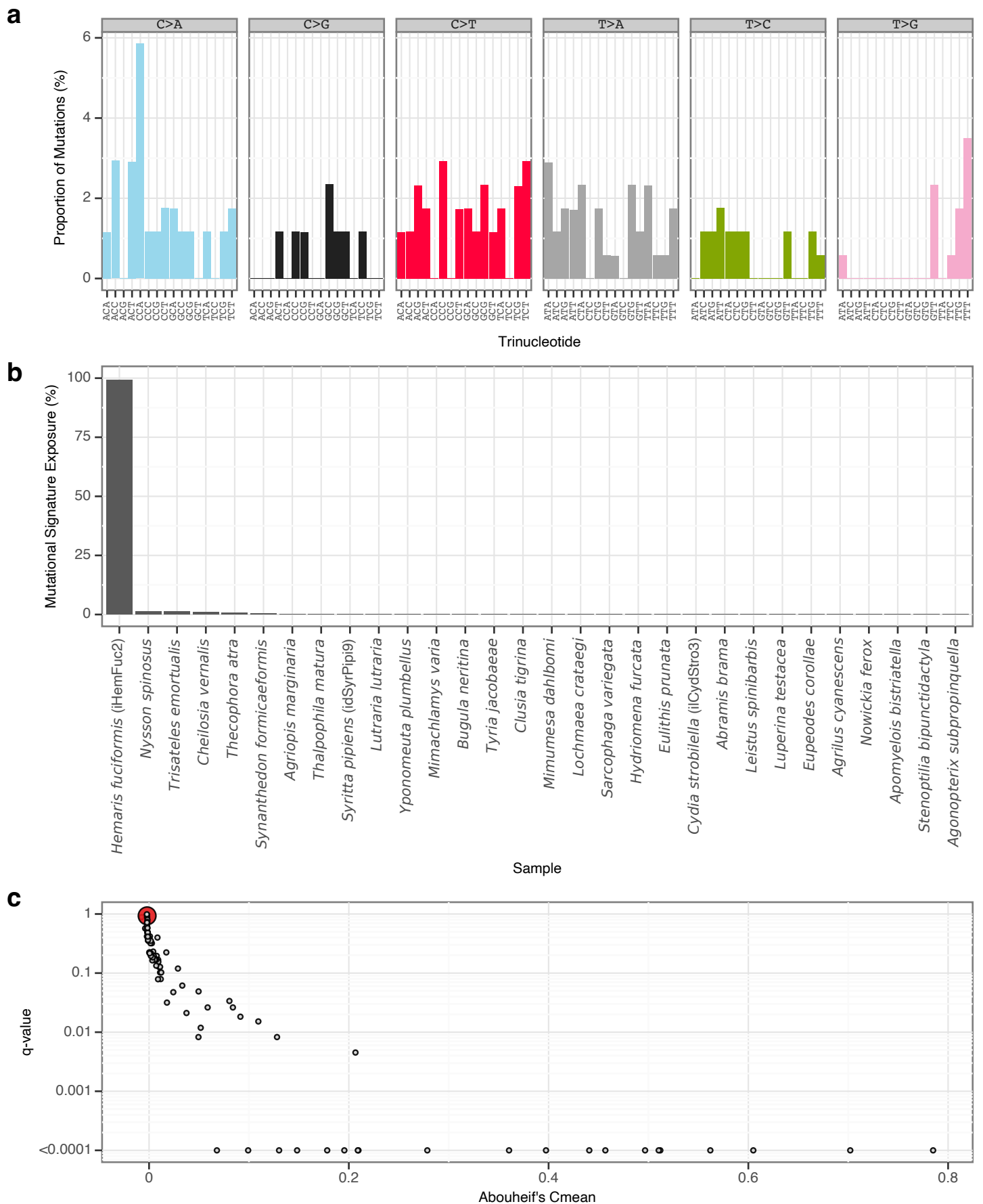


Supplementary Fig. 39 | sToL36 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

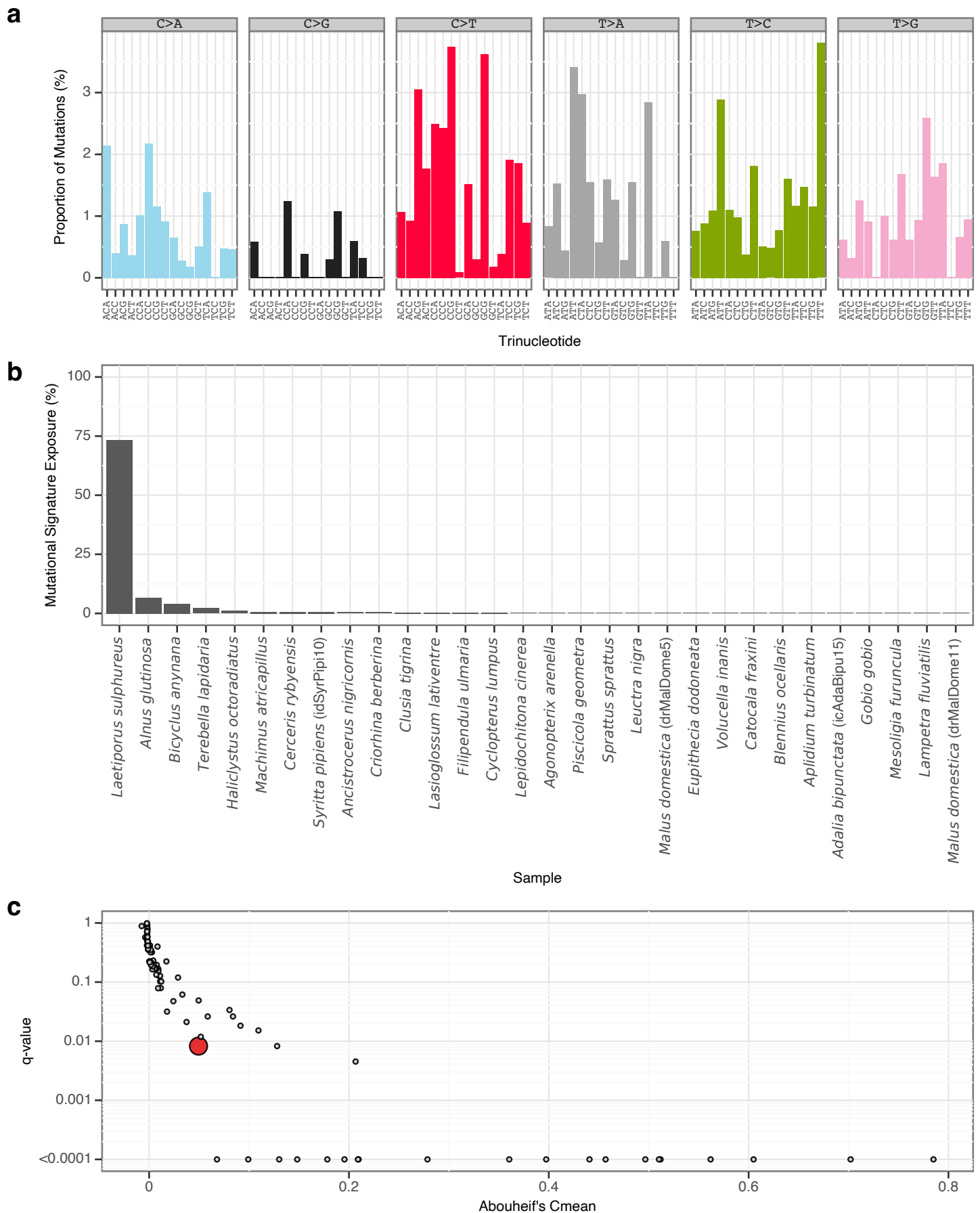


Supplementary Fig. 40 | sToL37 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

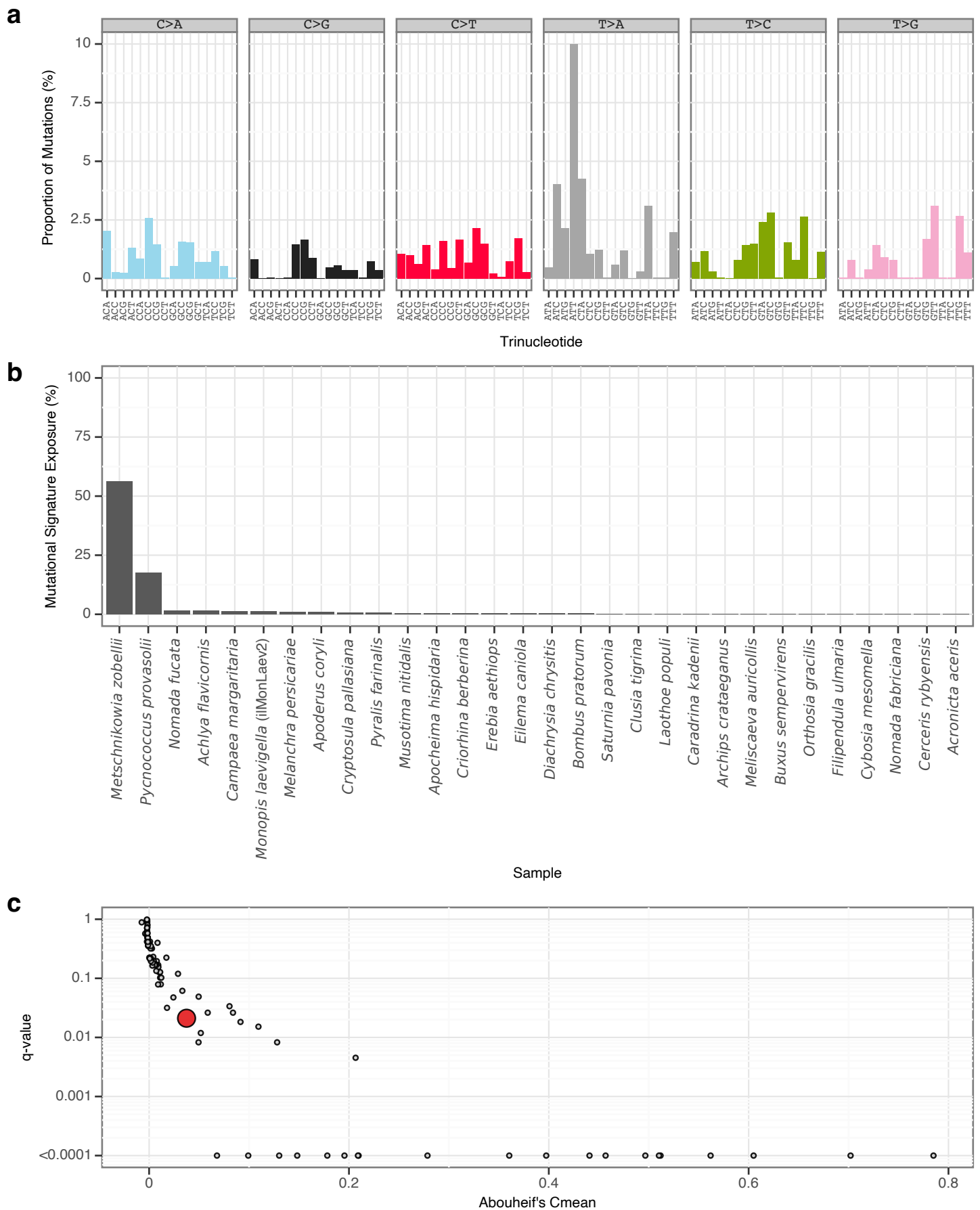


Supplementary Fig. 41 | sToL38 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

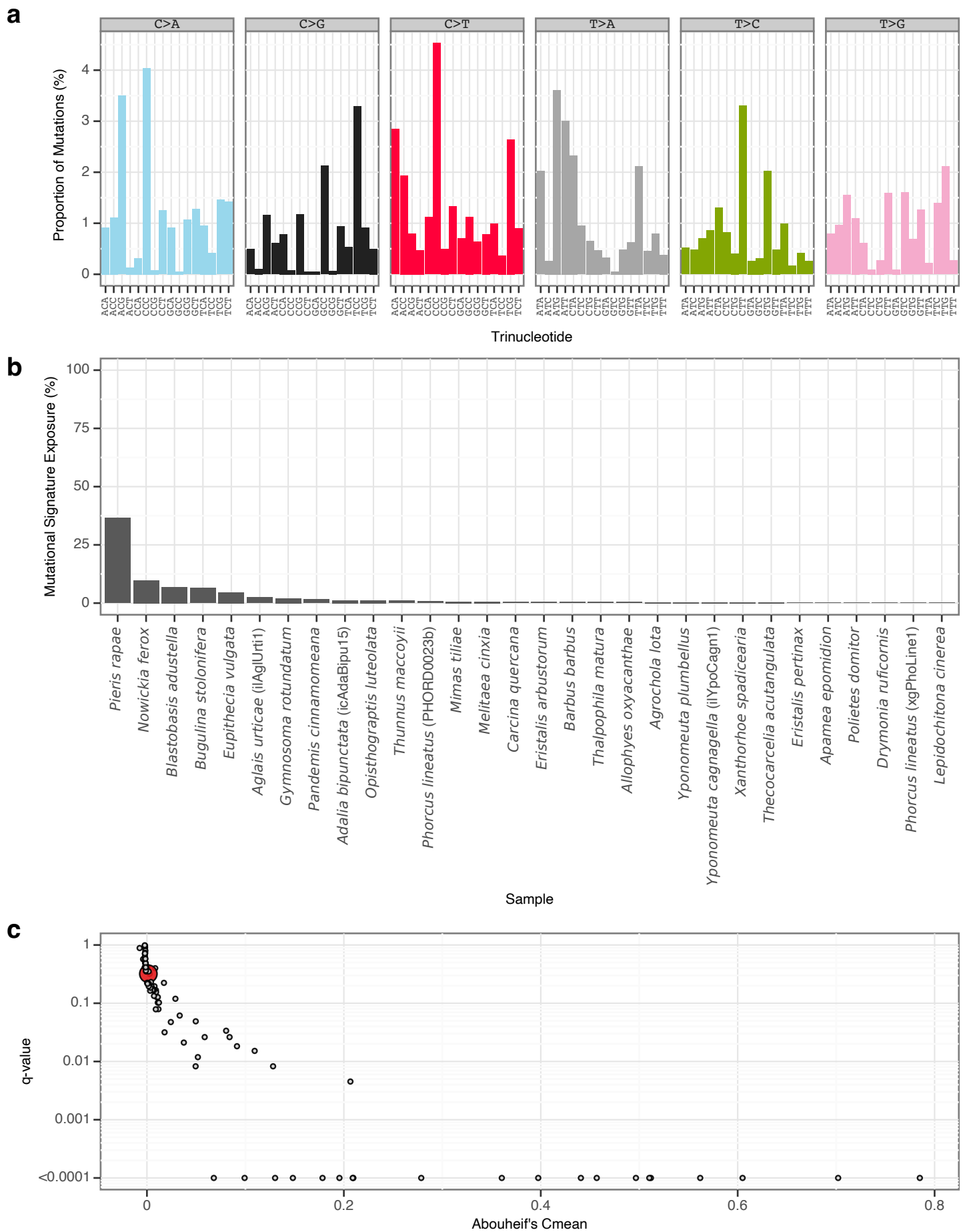


Supplementary Fig. 42 | sToL39 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

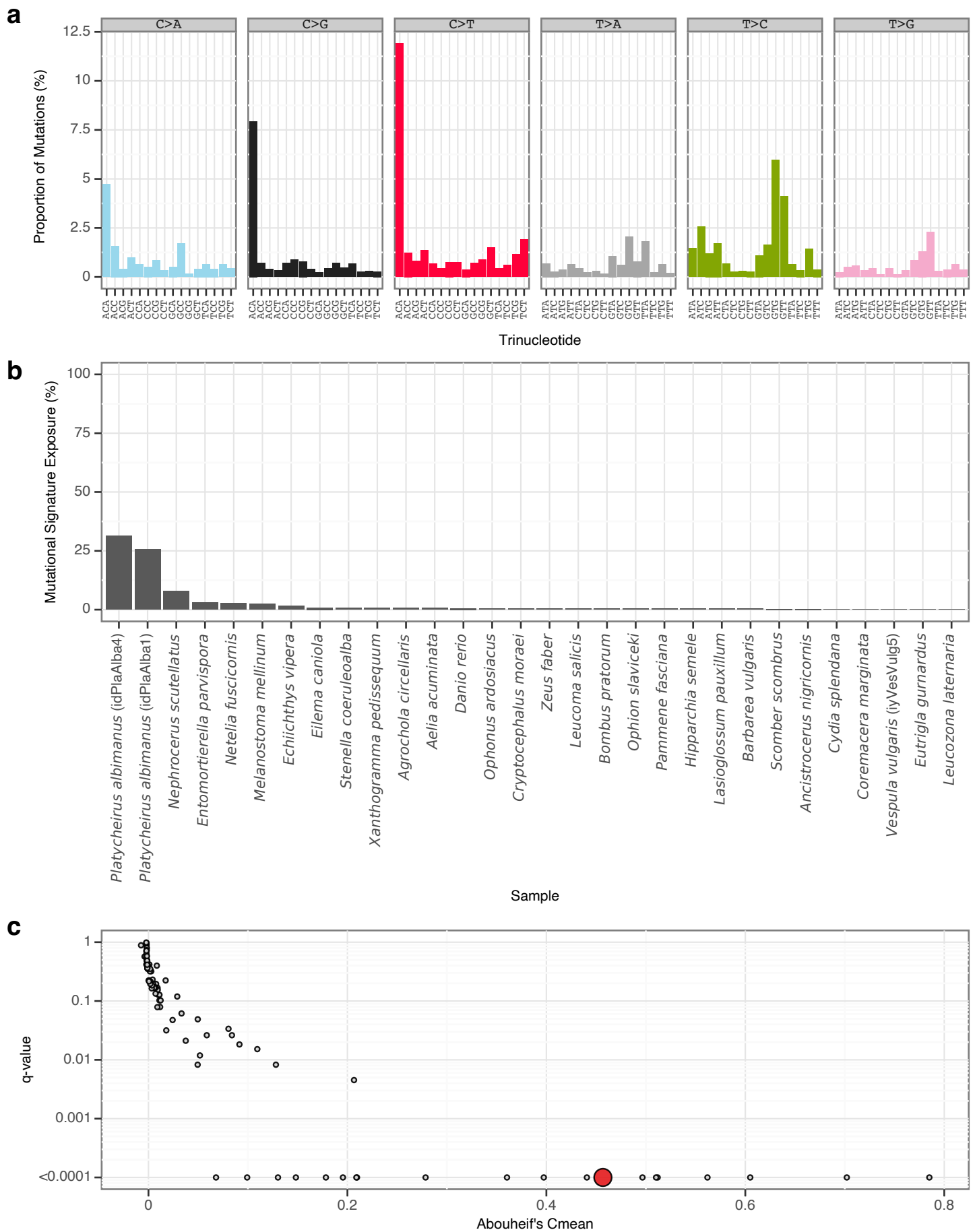


Supplementary Fig. 43 | sToL40 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

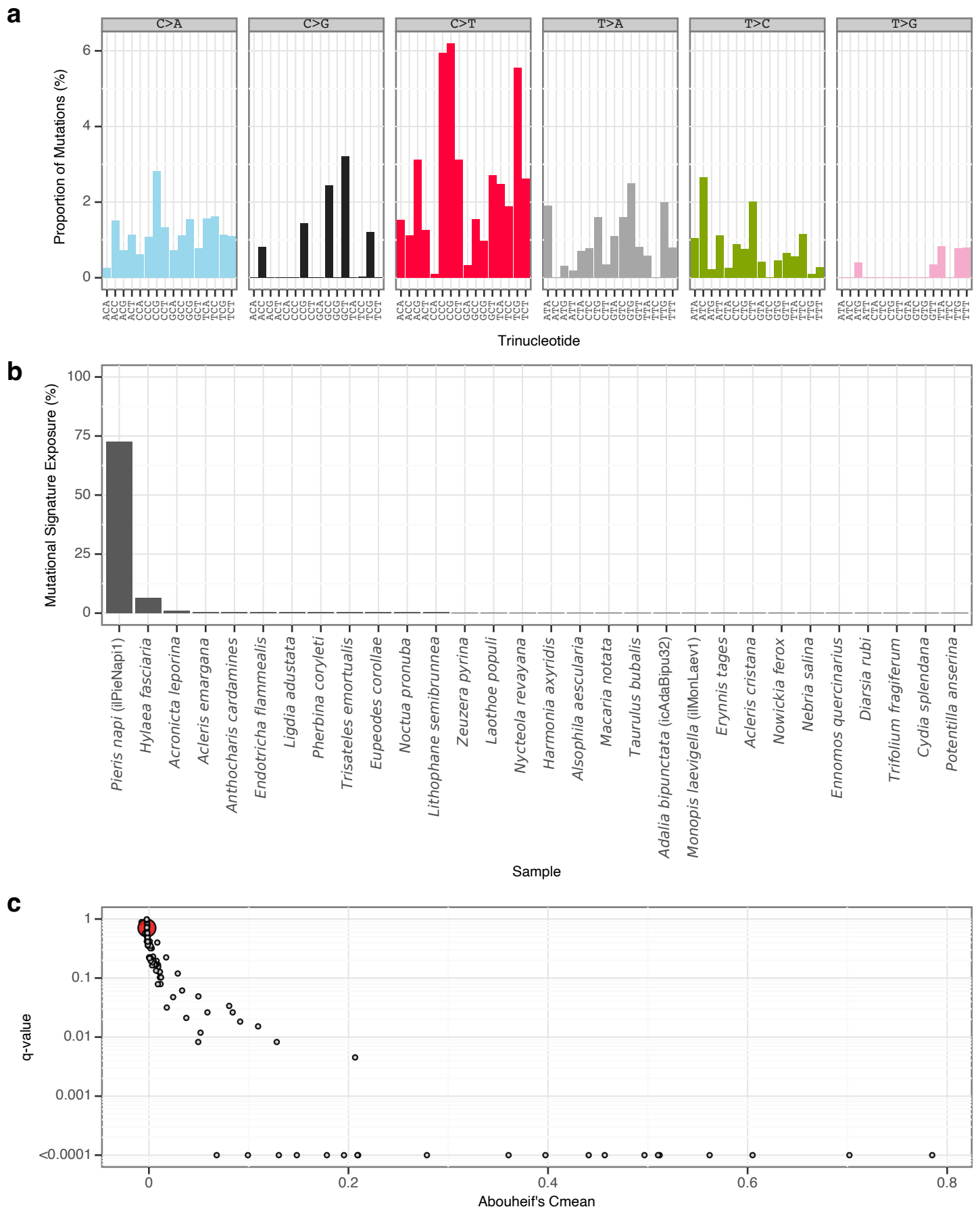


Supplementary Fig. 44 | sToL41 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

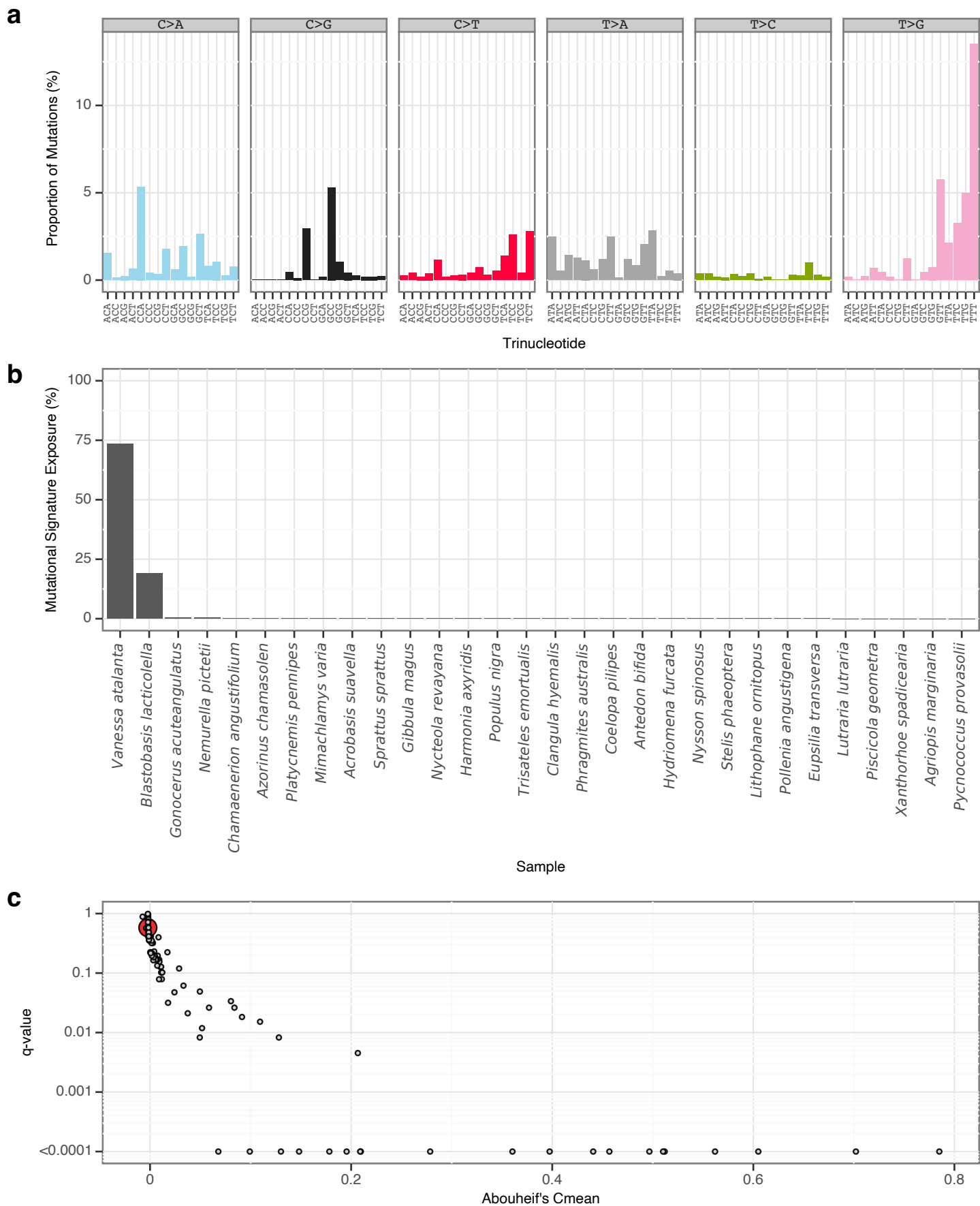


Supplementary Fig. 45 | sToL42 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

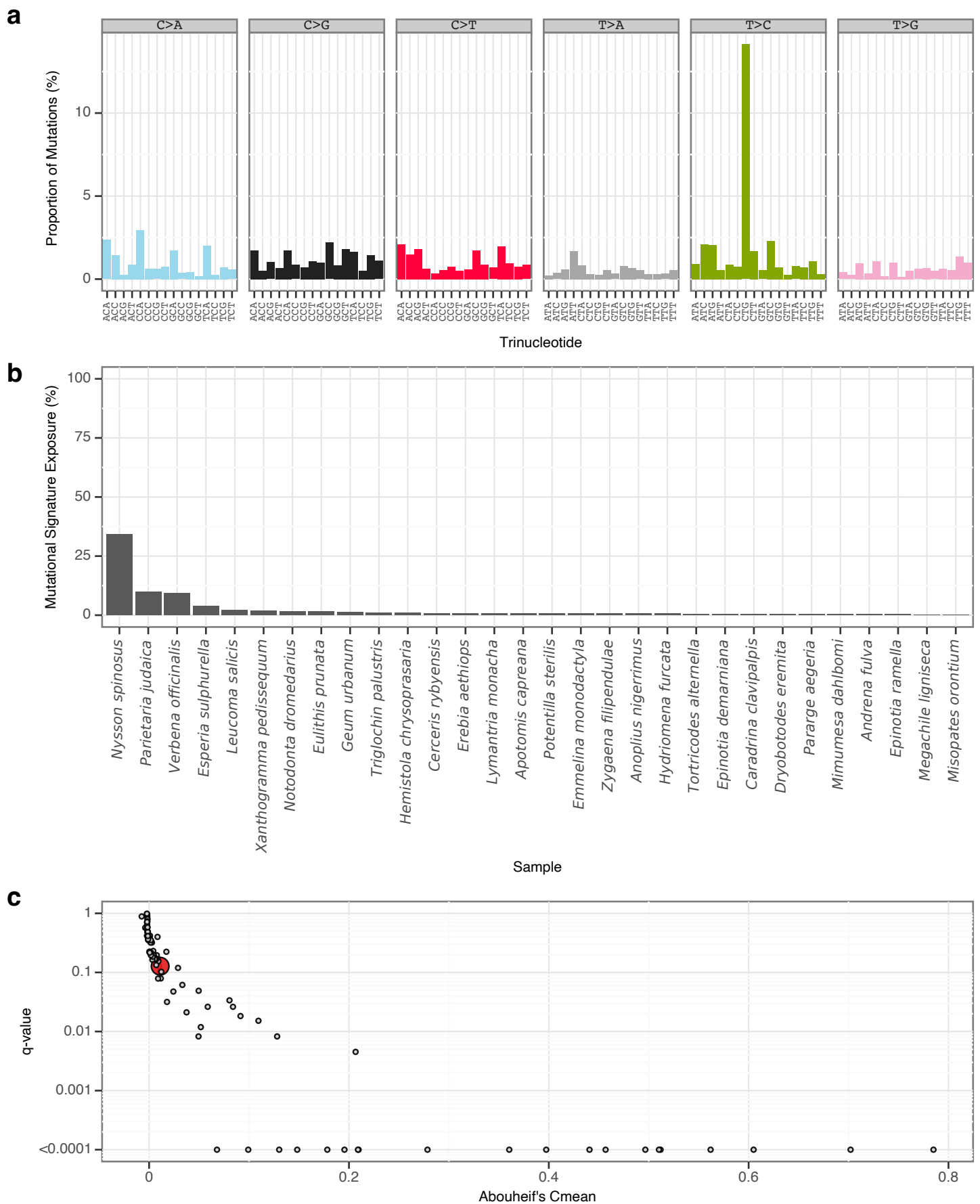


Supplementary Fig. 46 | sToL43 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

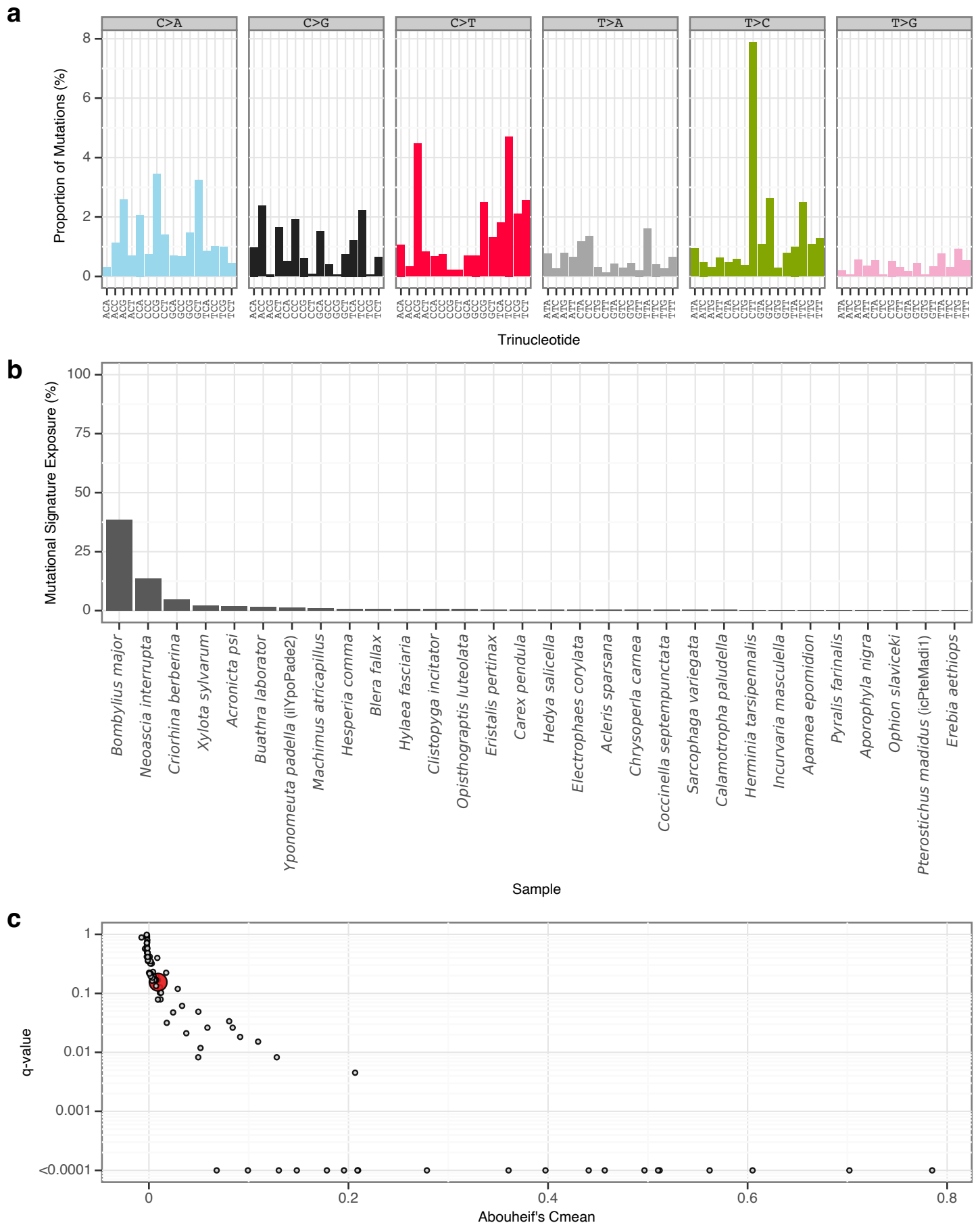


Supplementary Fig. 47 | sToL44 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

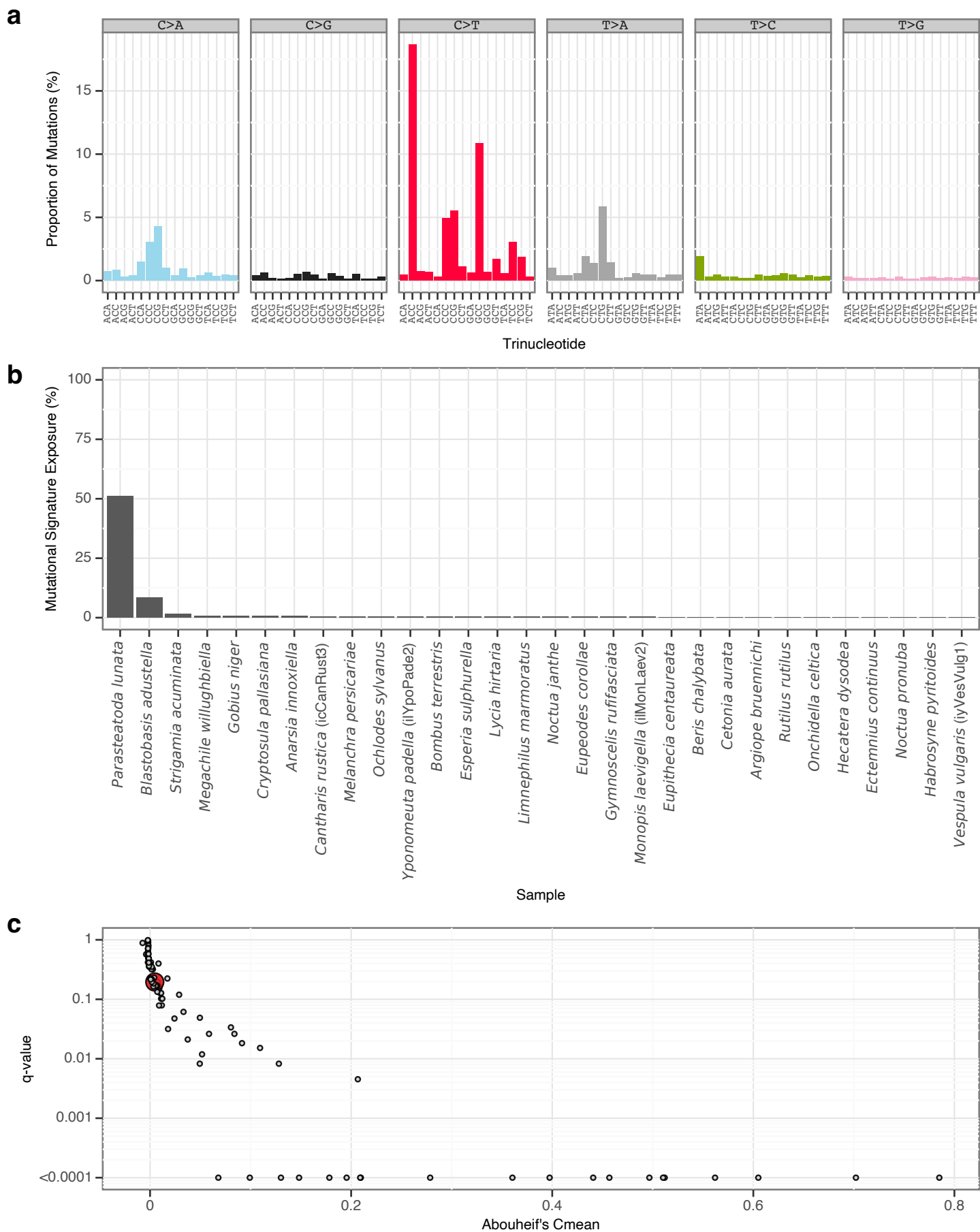


Supplementary Fig. 48 | sToL45 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

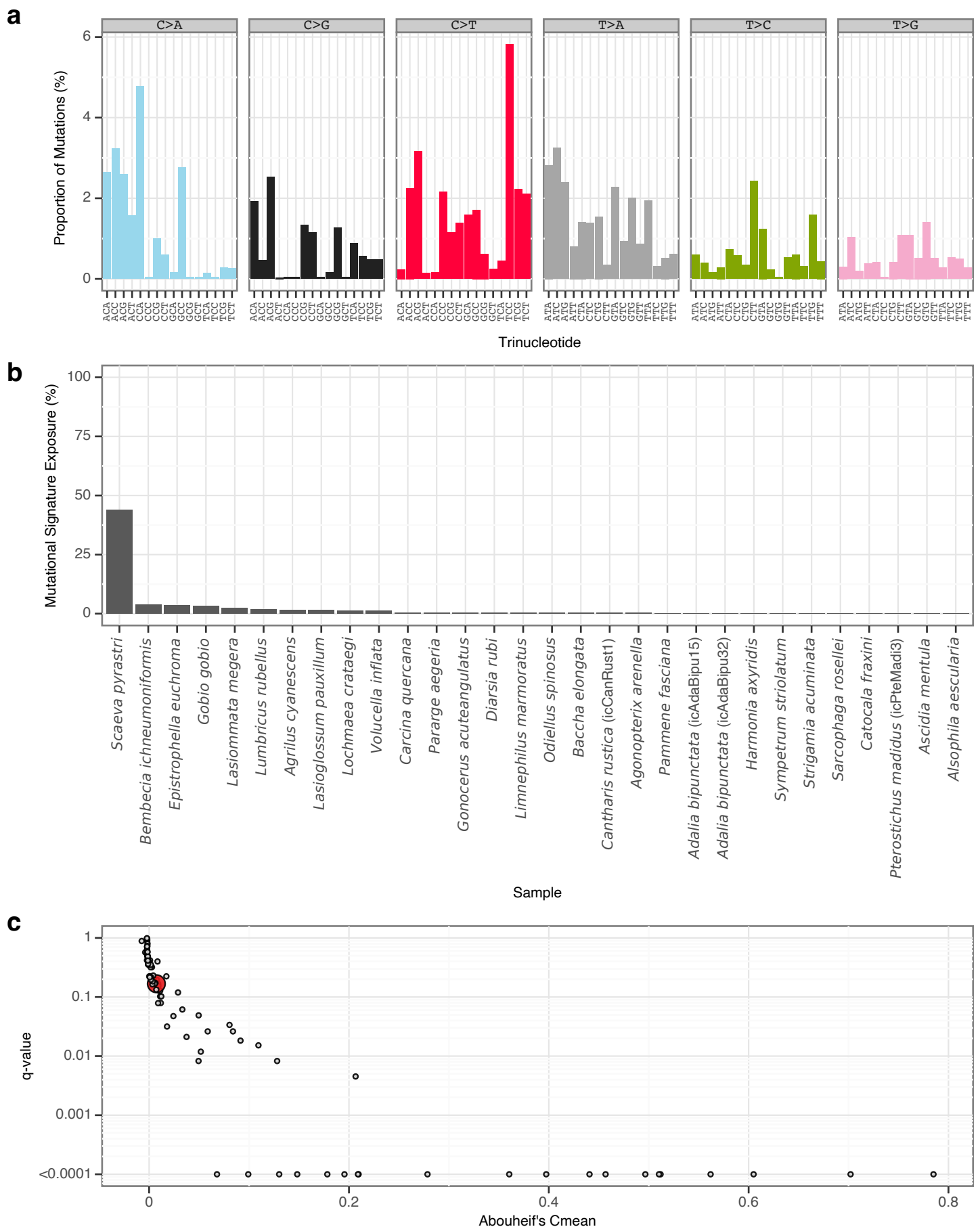


Supplementary Fig. 49 | sToL46 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

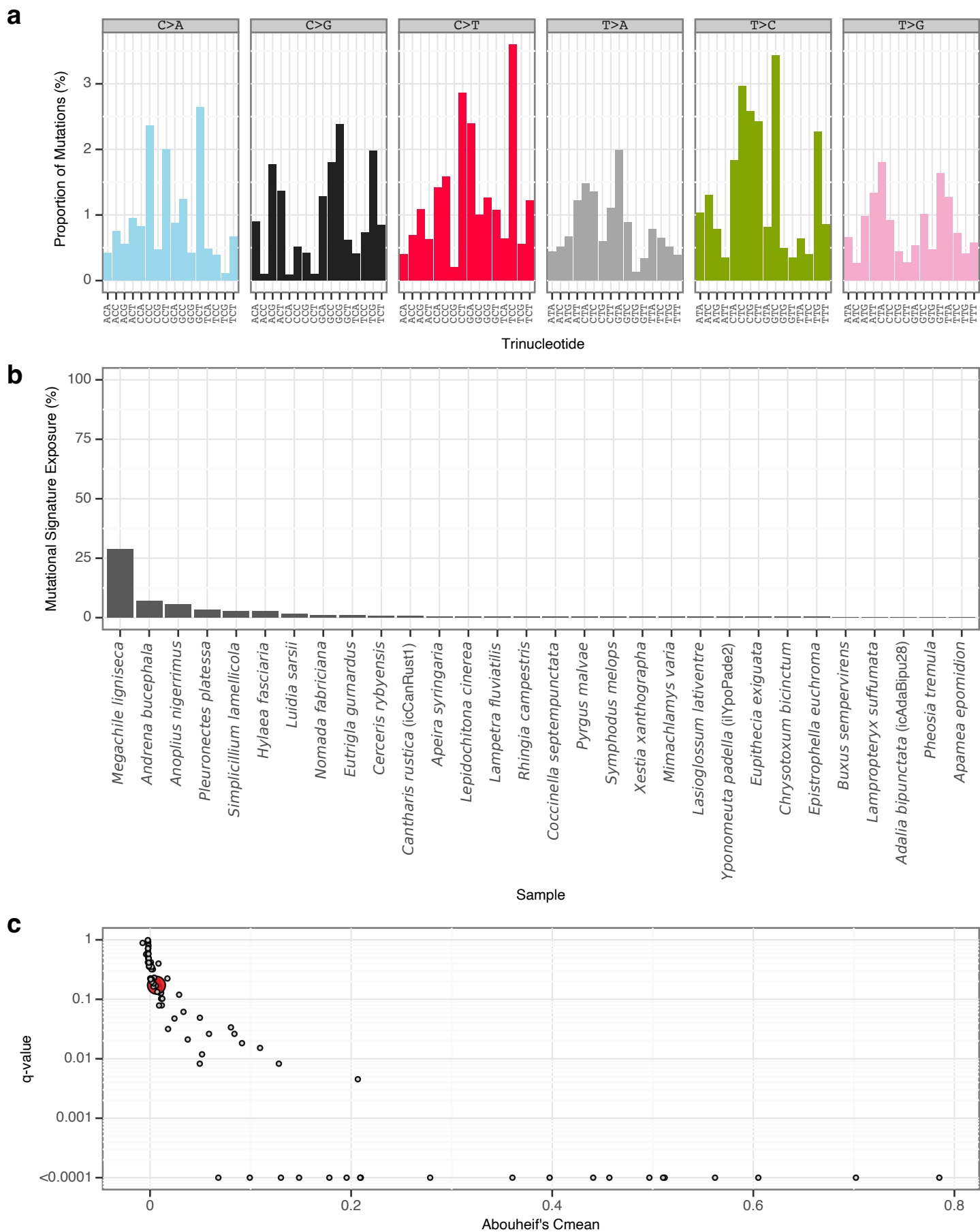


Supplementary Fig. 50 | sToL47 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

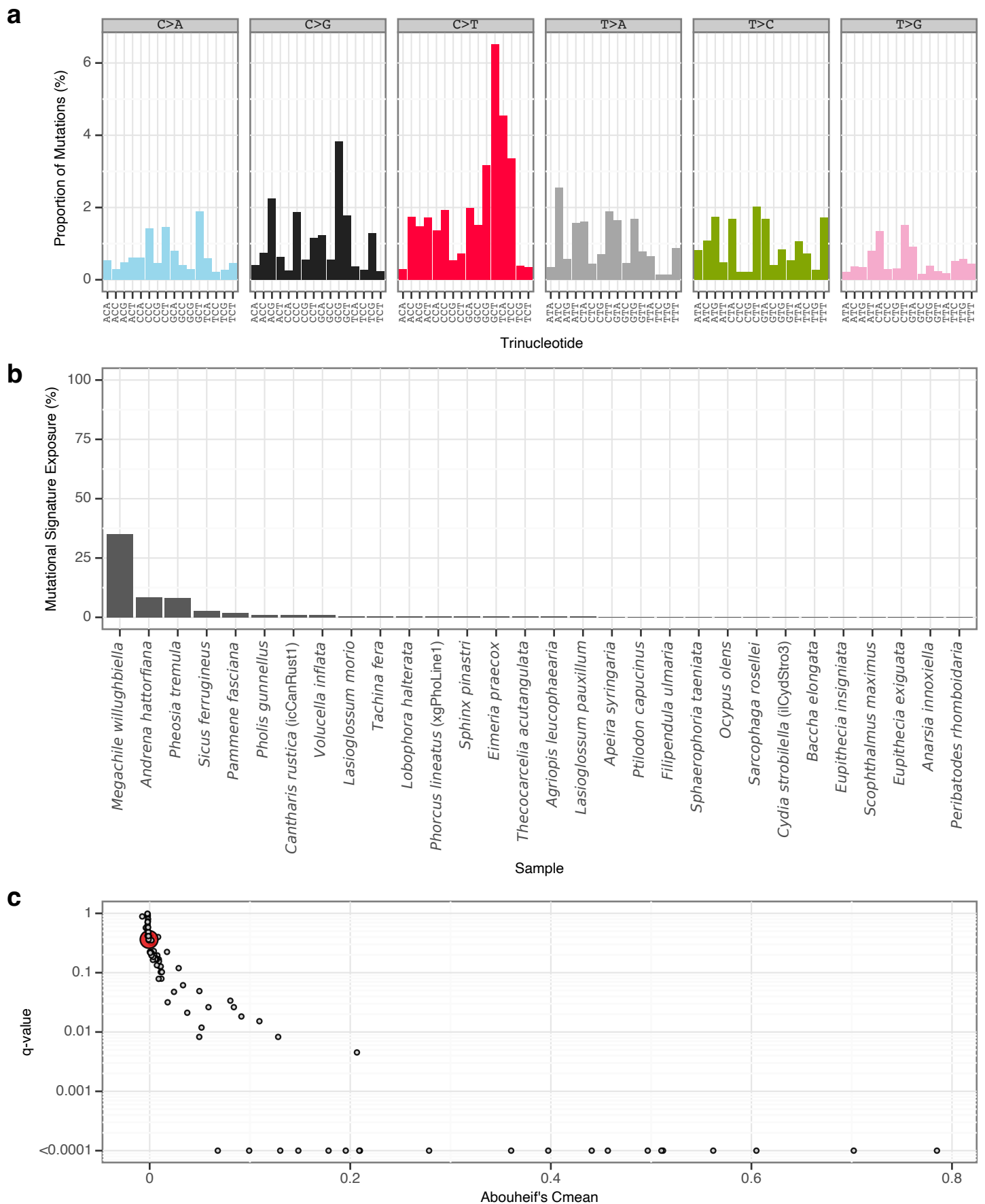


Supplementary Fig. 51 | sToL48 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

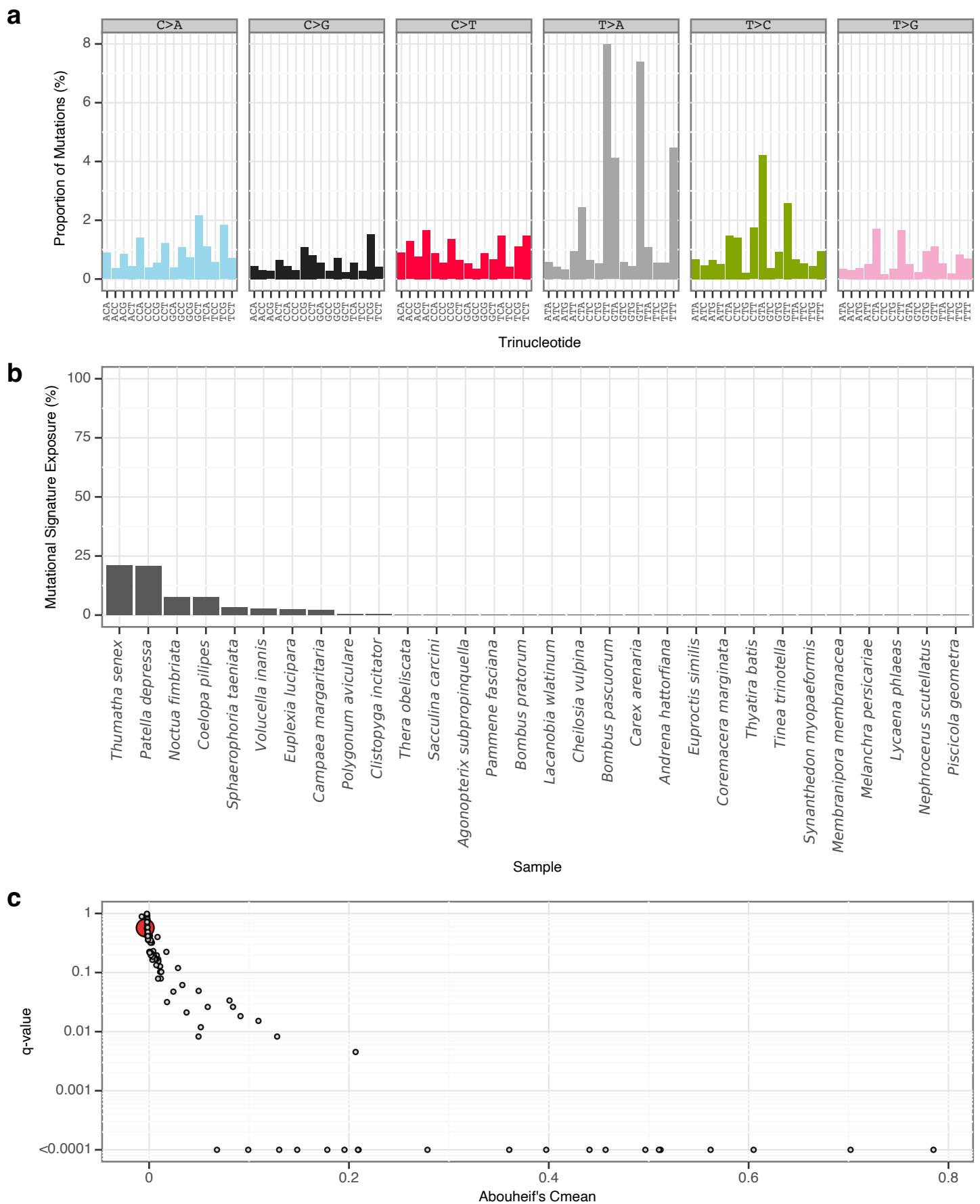


Supplementary Fig. 52 | sToL49 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

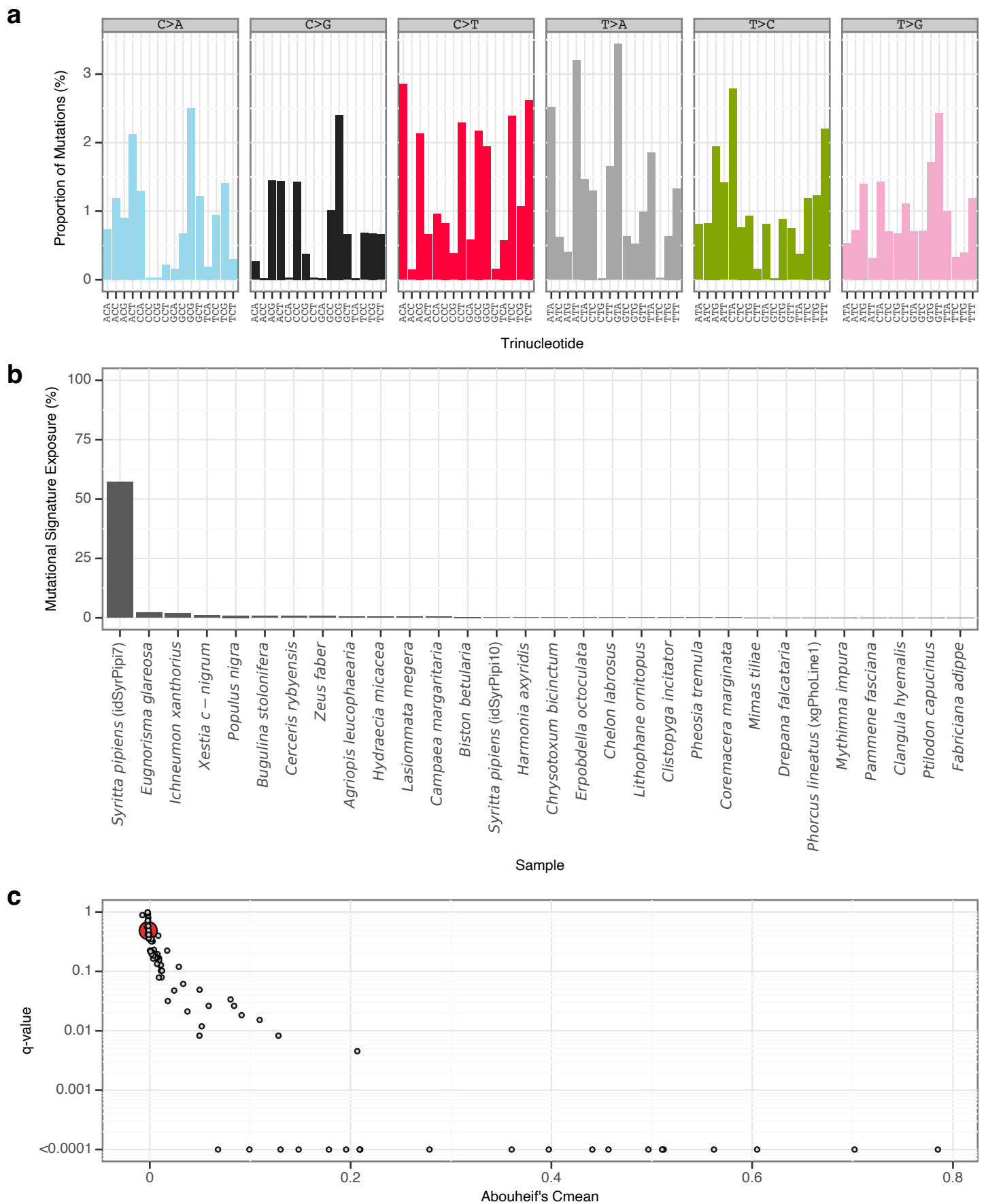


Supplementary Fig. 53 | sToL50 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

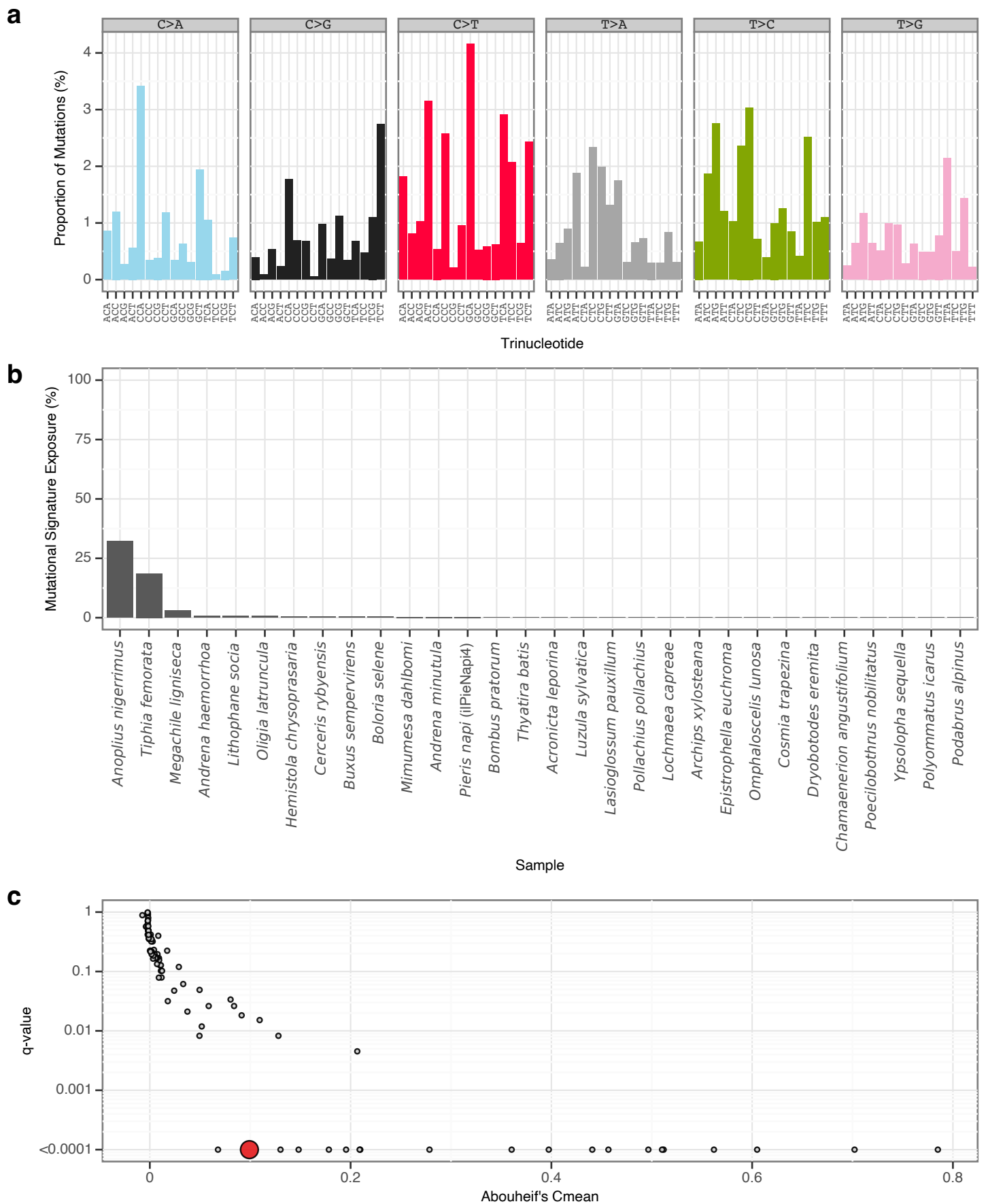


Supplementary Fig. 54 | sToL51 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

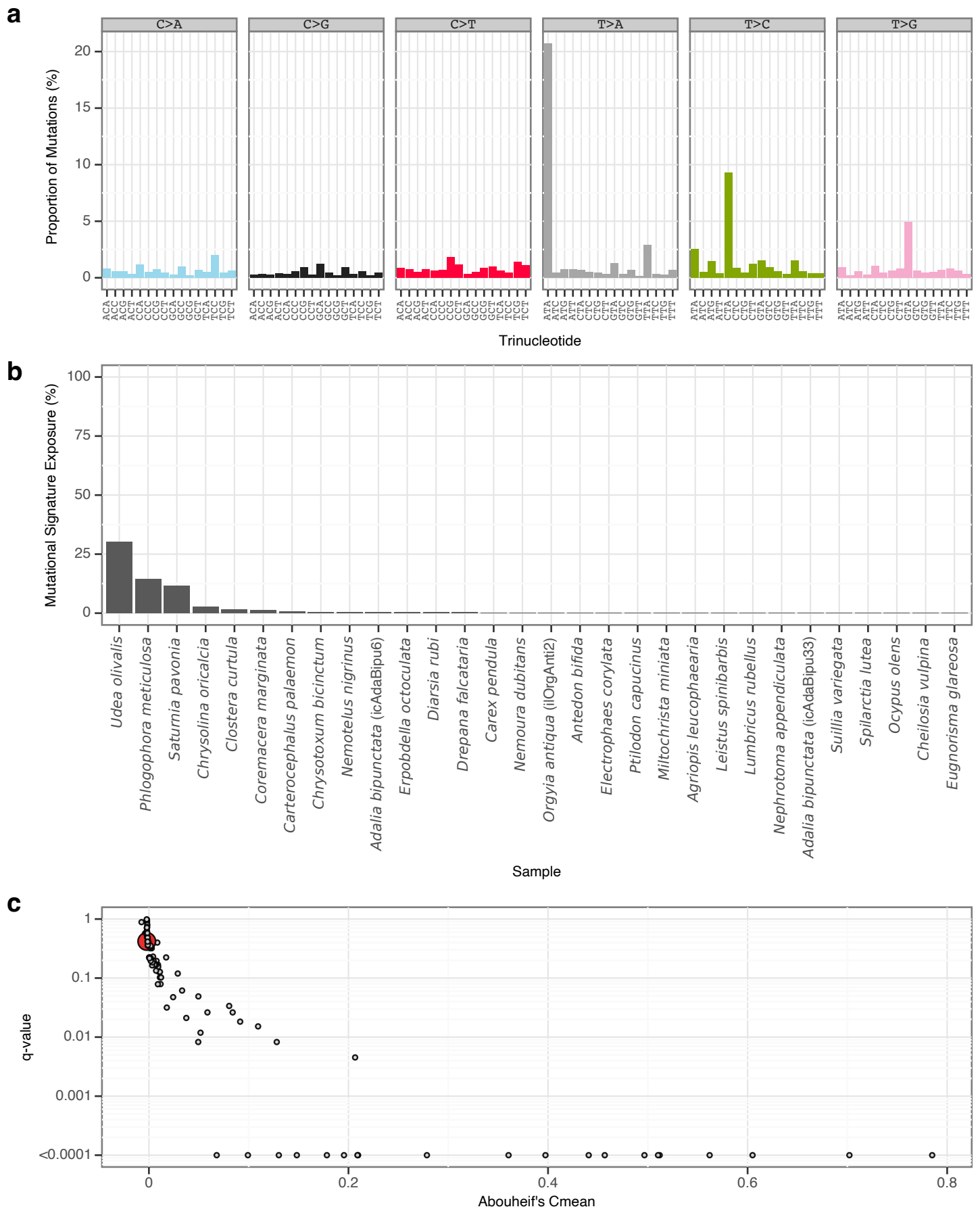


Supplementary Fig. 55 | sToL52 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

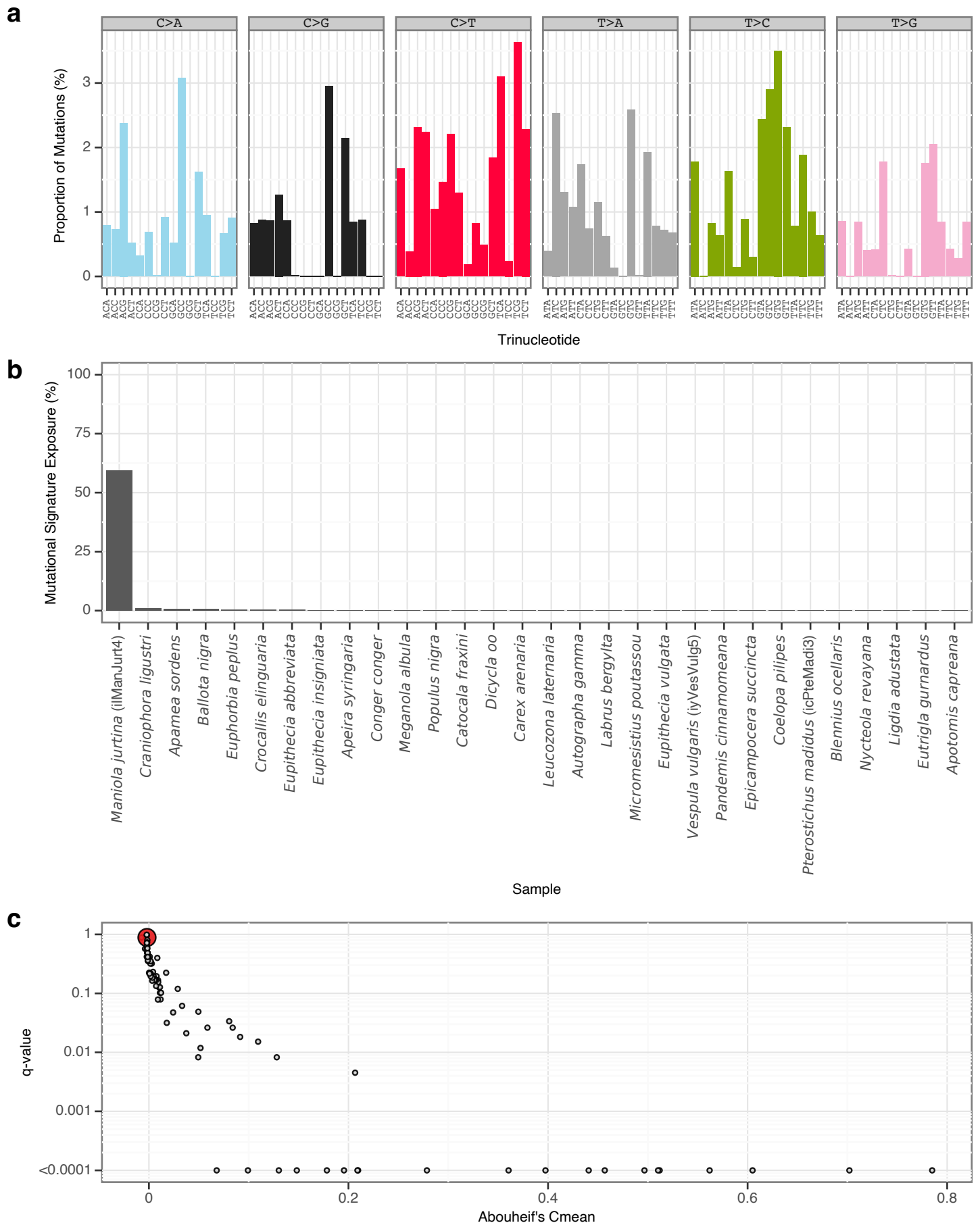


Supplementary Fig. 56 | sToL53 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

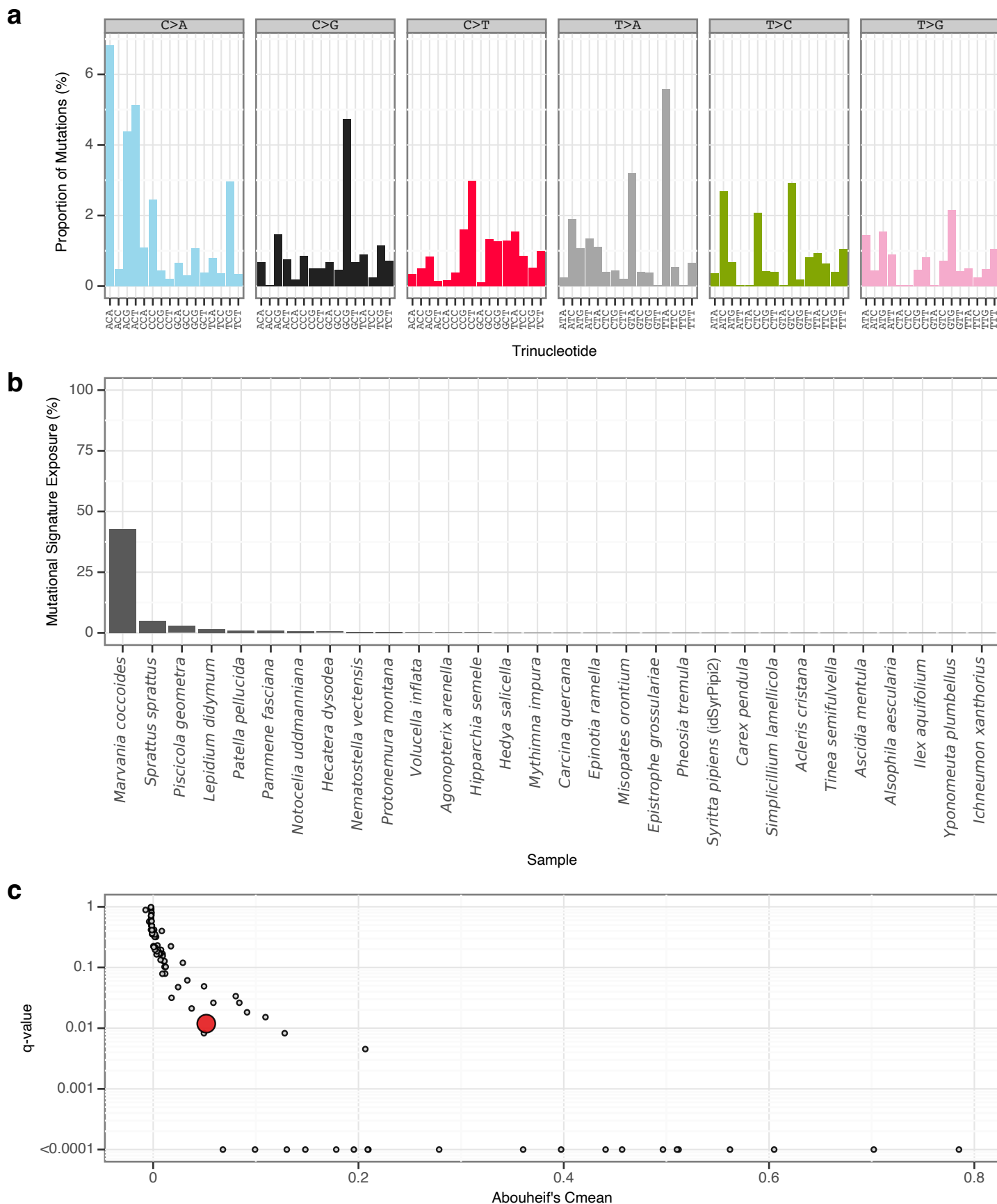


Supplementary Fig. 57 | sToL54 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

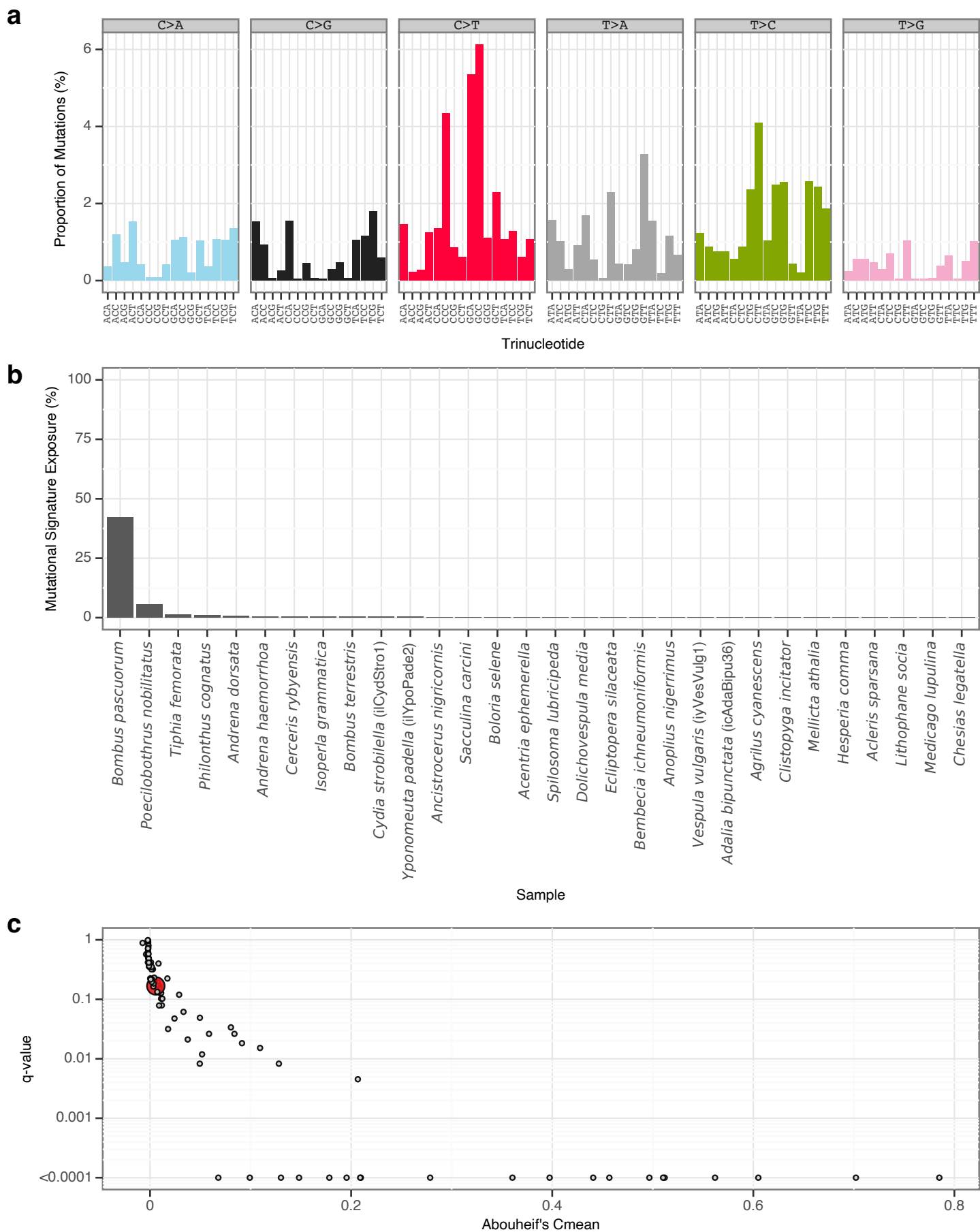


Supplementary Fig. 58 | sToL55 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

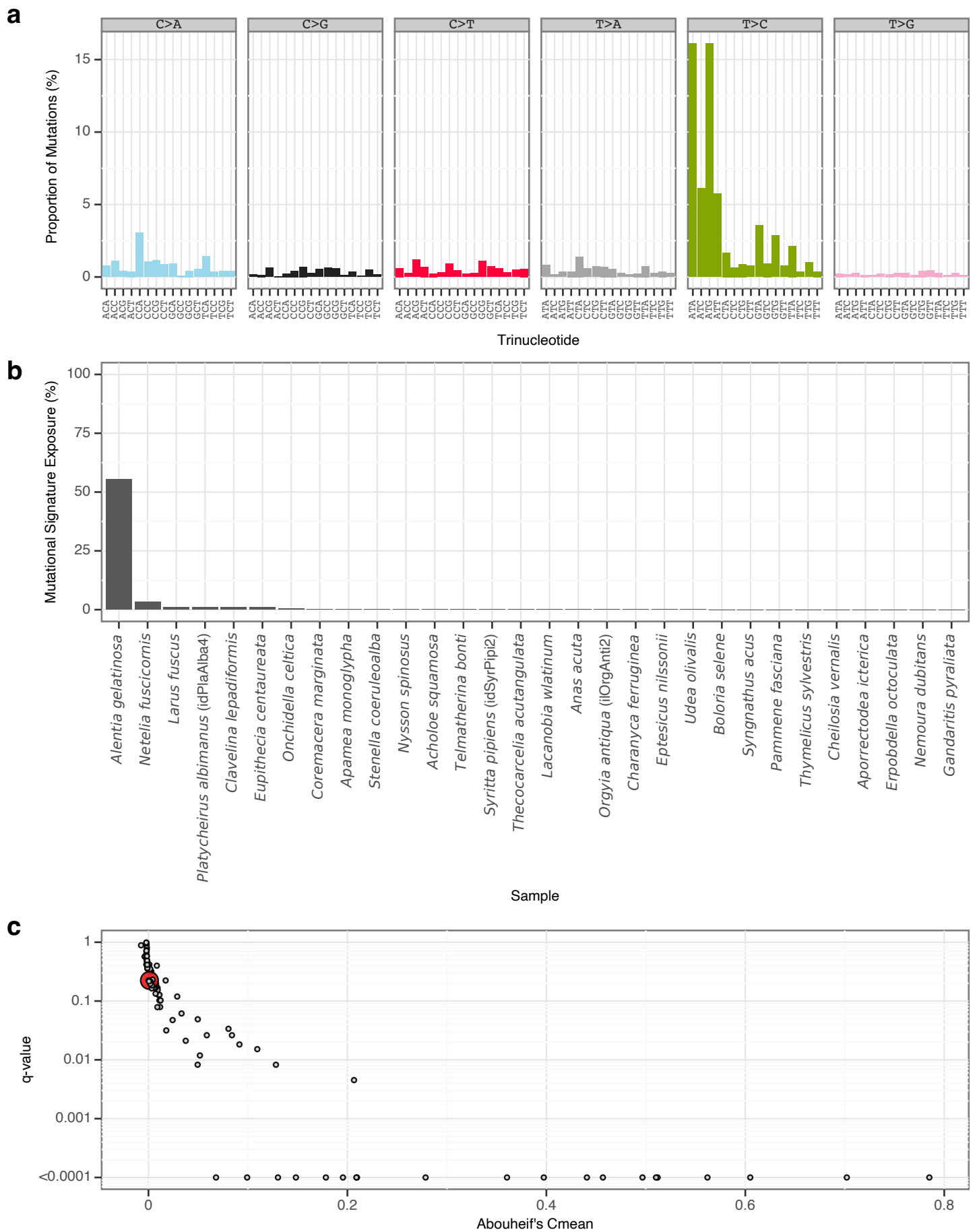


Supplementary Fig. 59 | sToL56 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

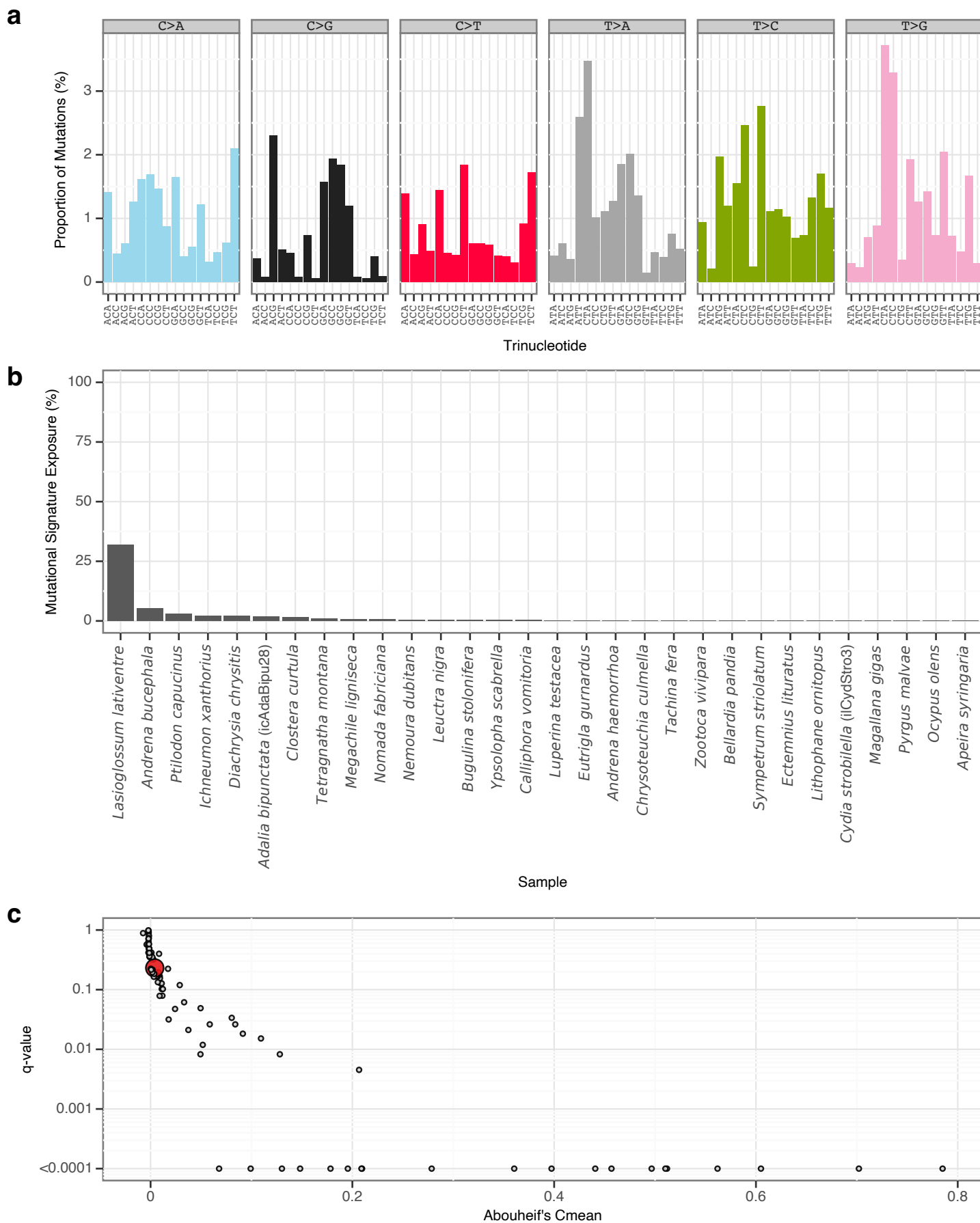


Supplementary Fig. 60 | sToL57 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

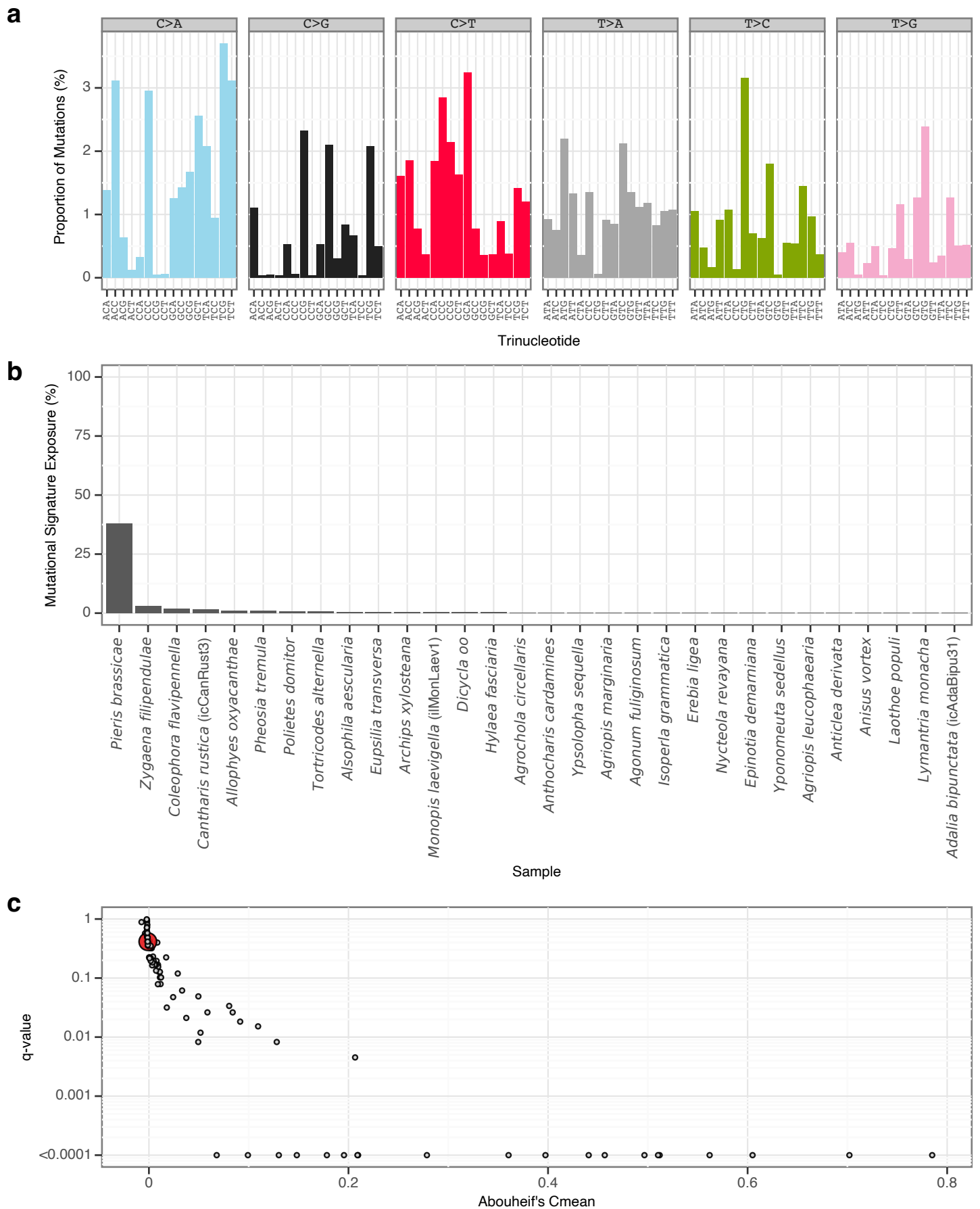


Supplementary Fig. 61 | sToL58 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

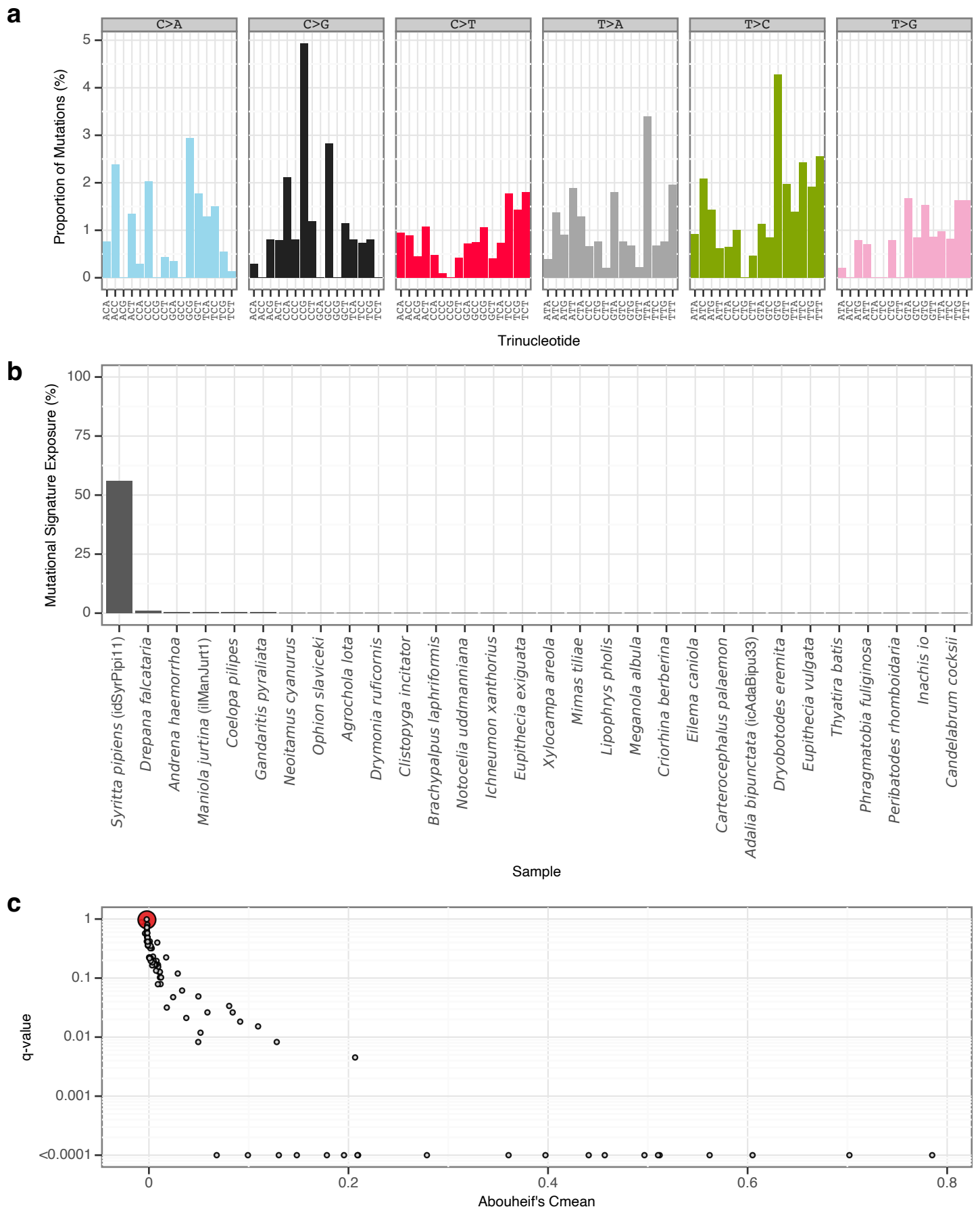


Supplementary Fig. 62 | sToL59 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

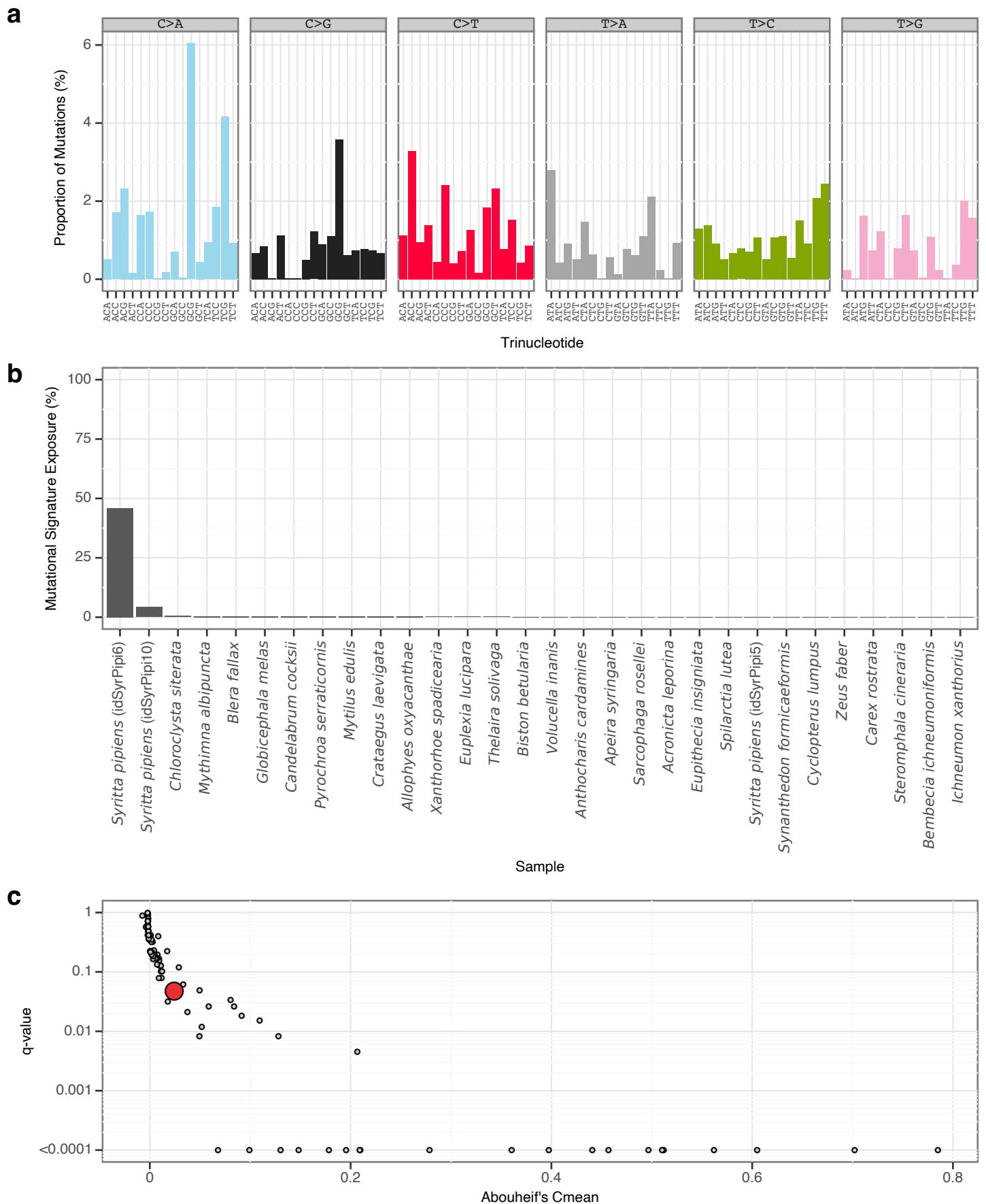


Supplementary Fig. 63 | sTol60 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

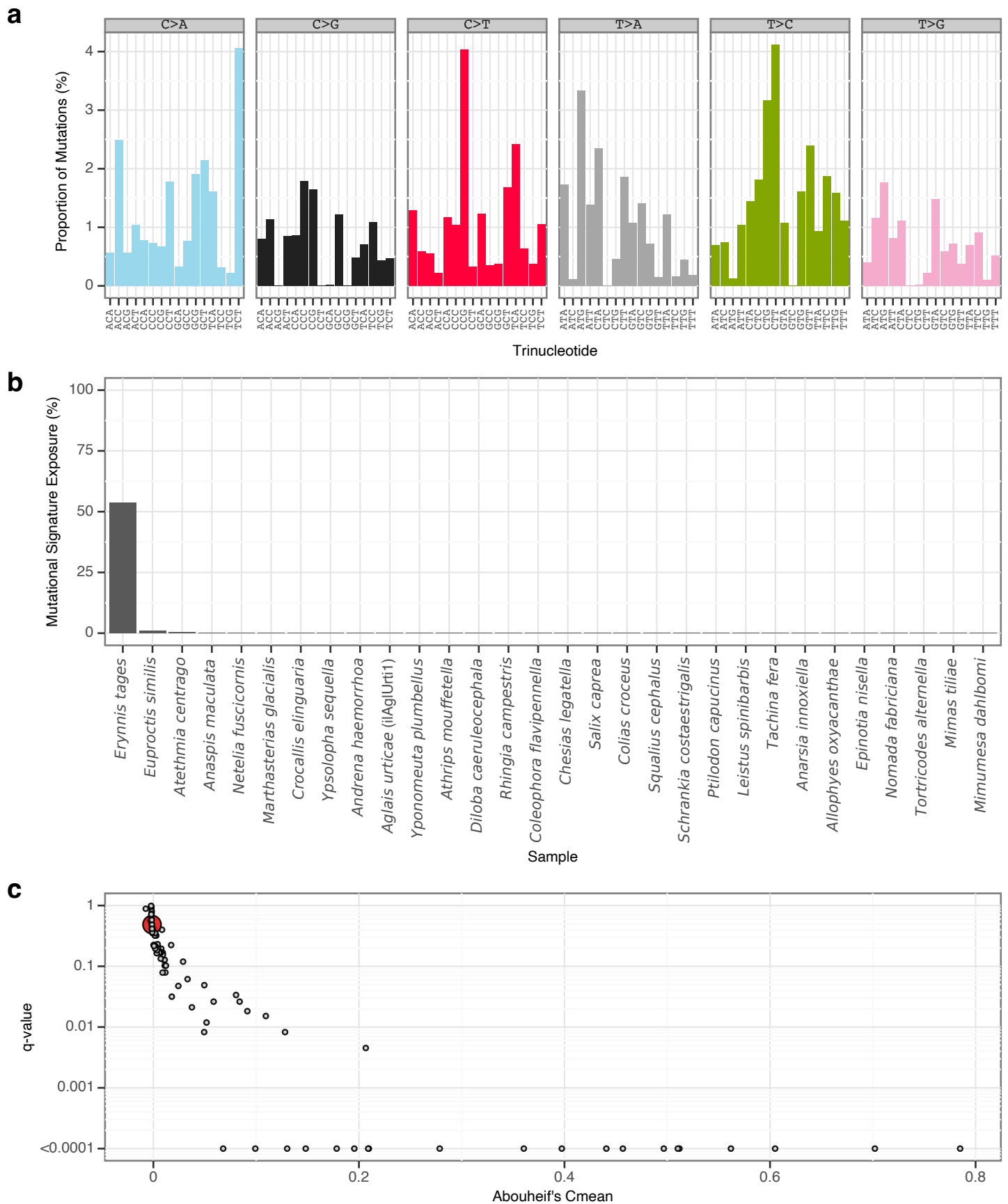


Supplementary Fig. 64 | sToL61 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

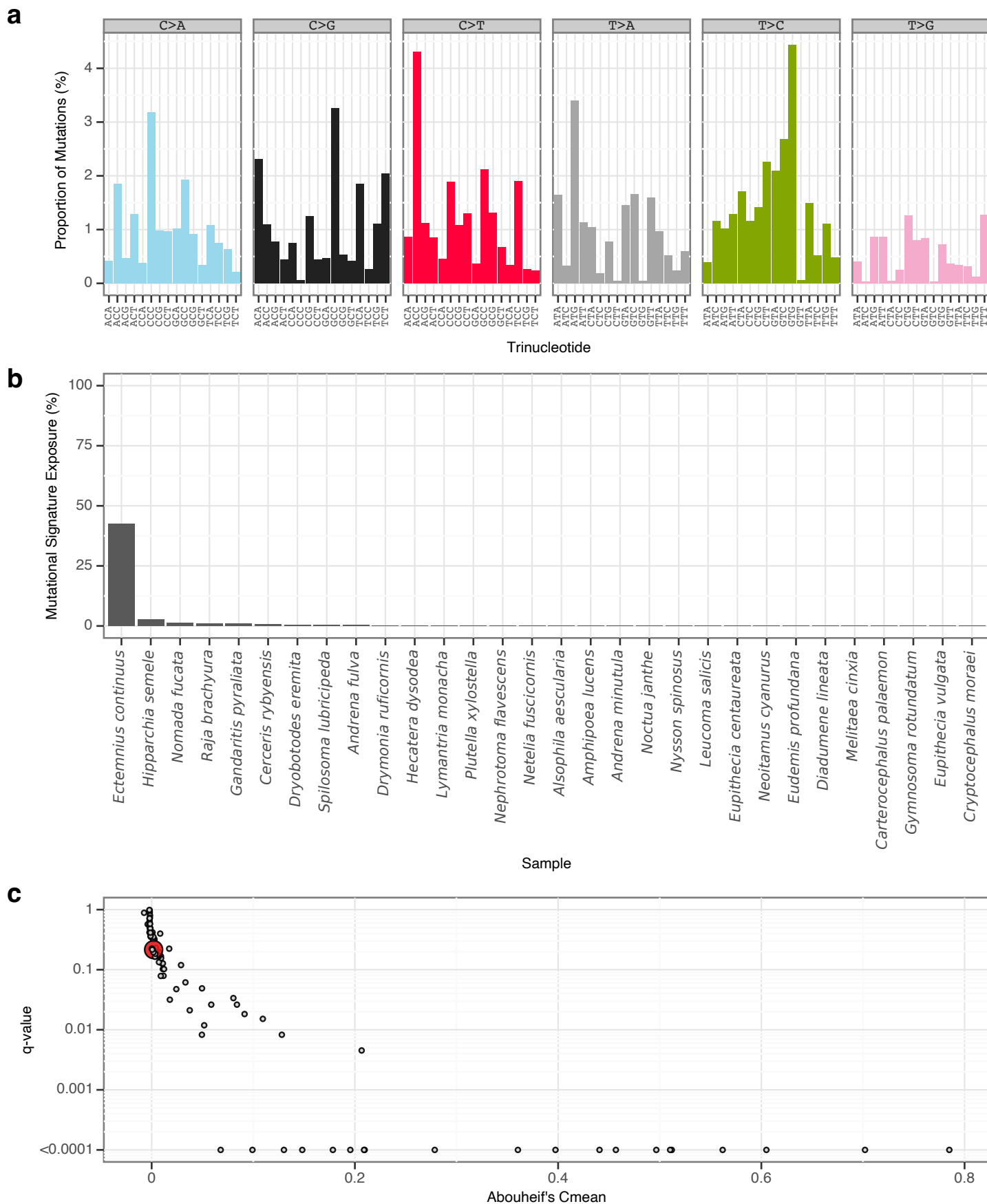


Supplementary Fig. 65 | sToL62 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

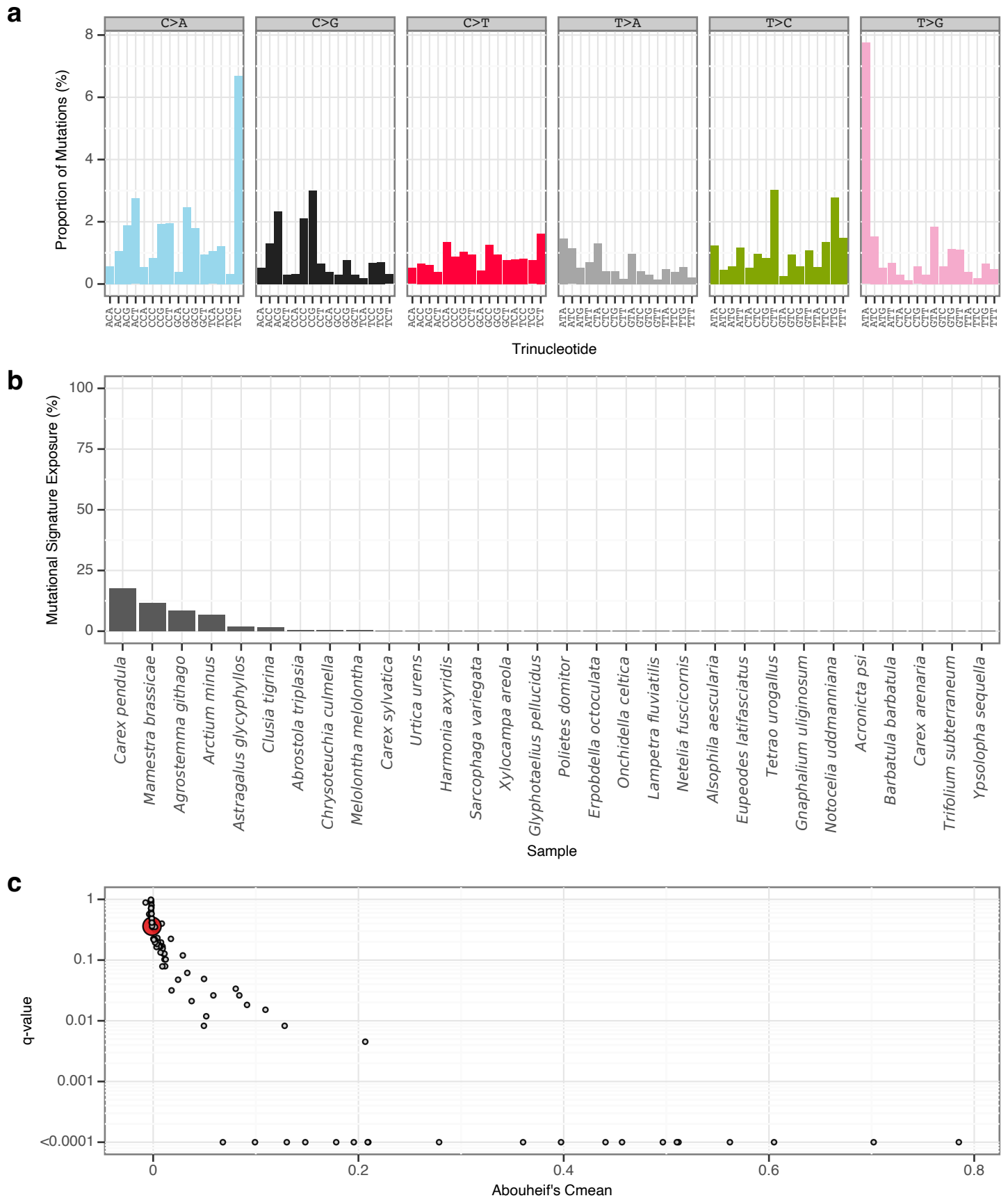


Supplementary Fig. 66 | sToL63 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

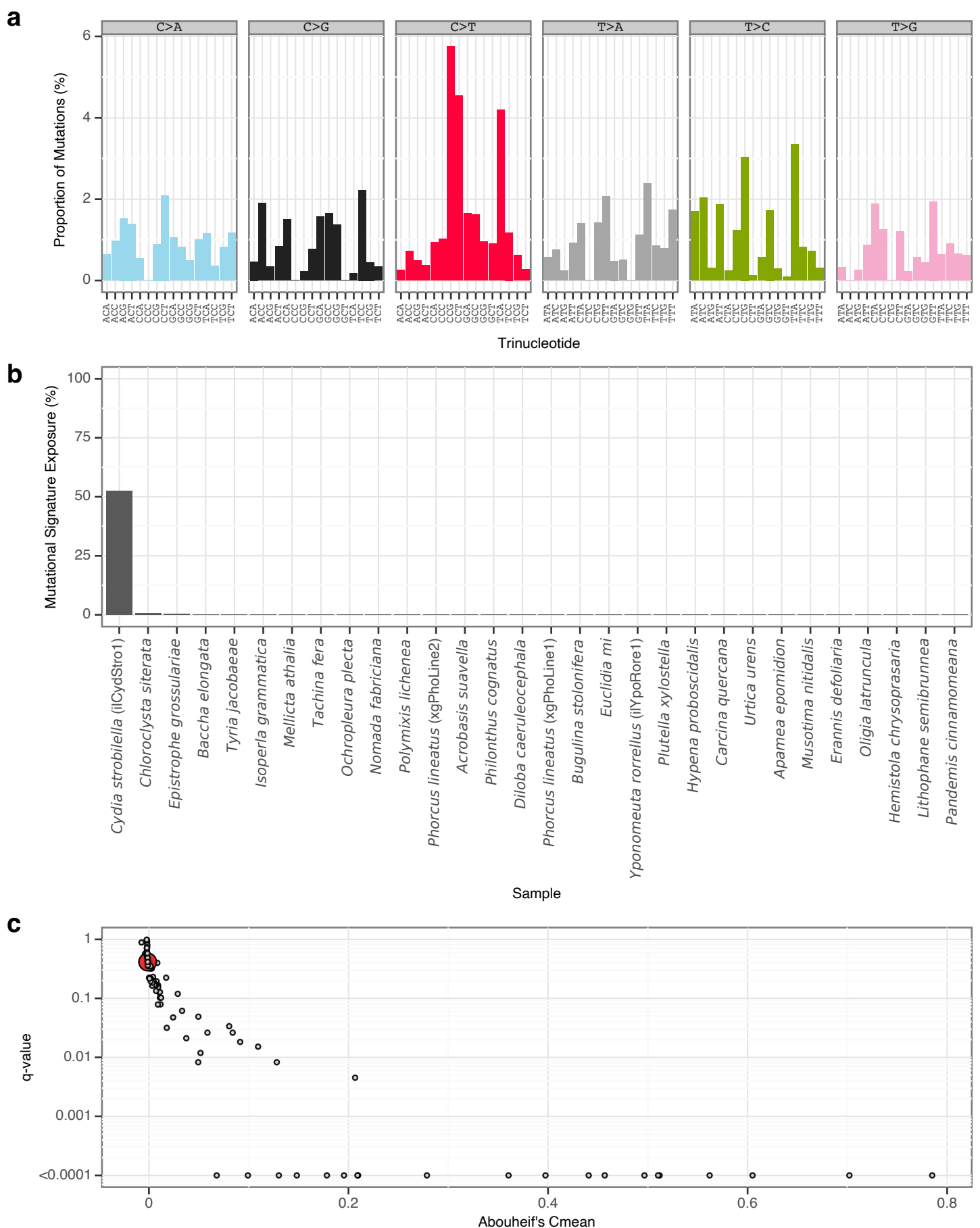


Supplementary Fig. 67 | sToL64 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

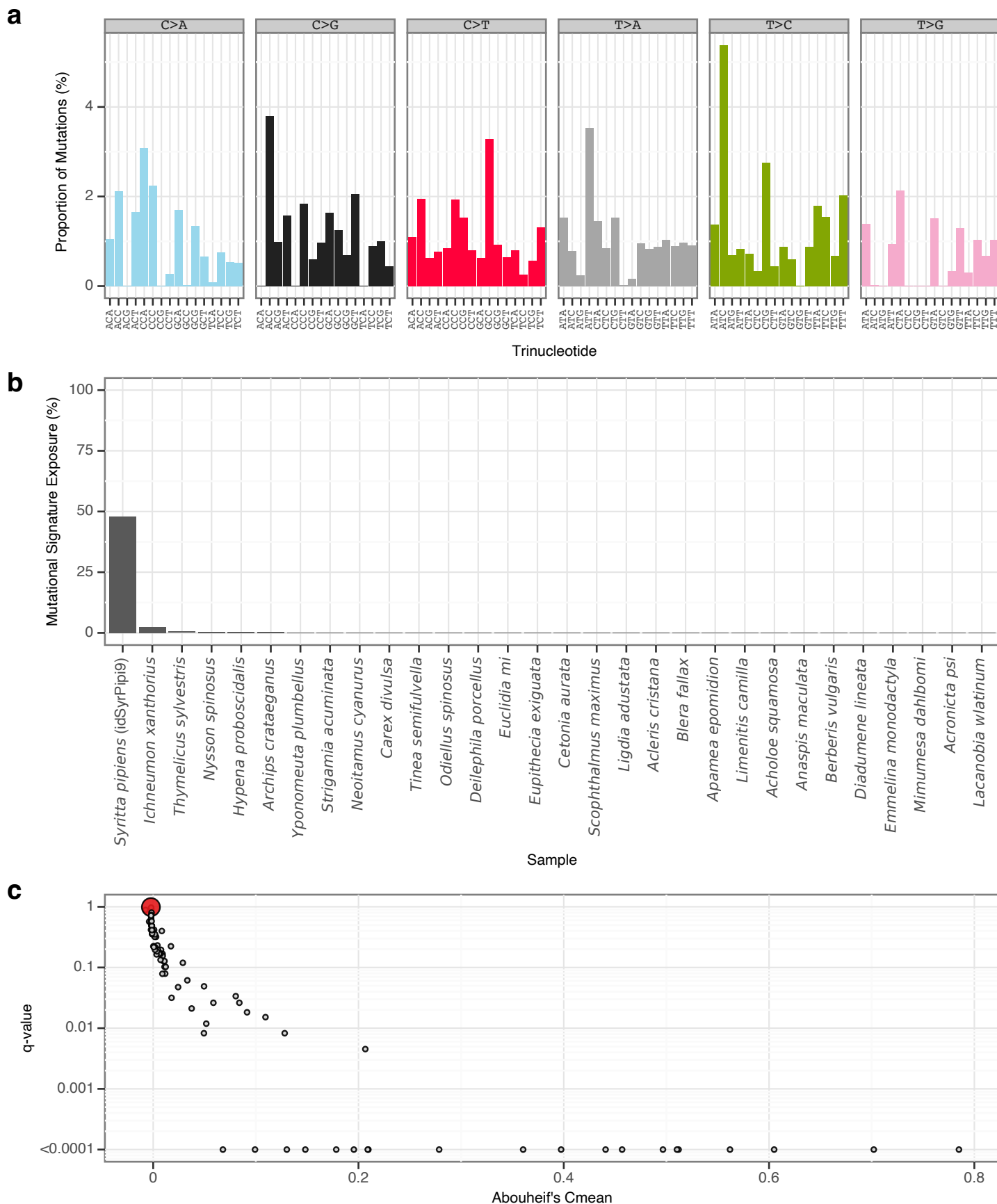


Supplementary Fig. 68 | sToL65 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

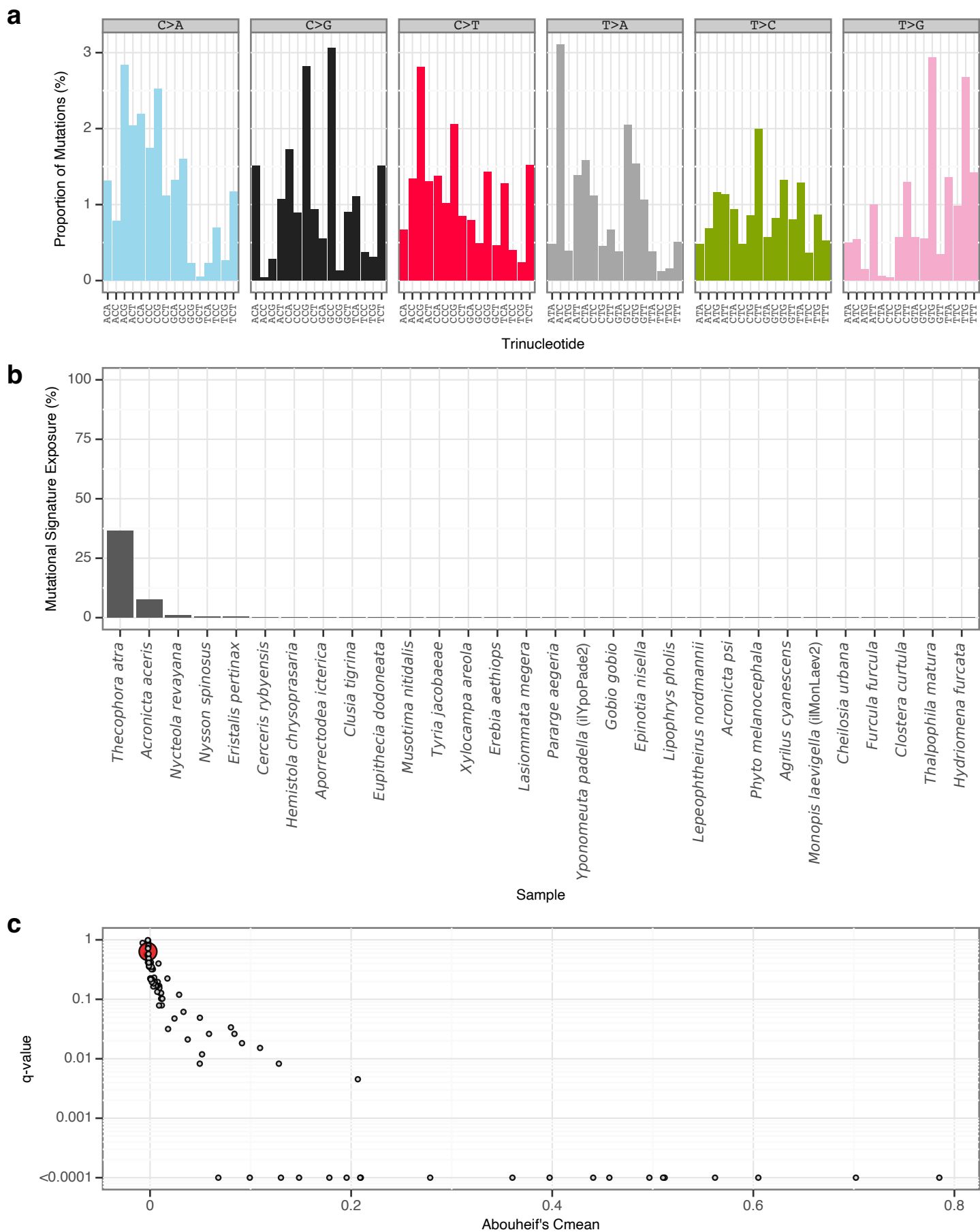


Supplementary Fig. 69 | sToL66 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

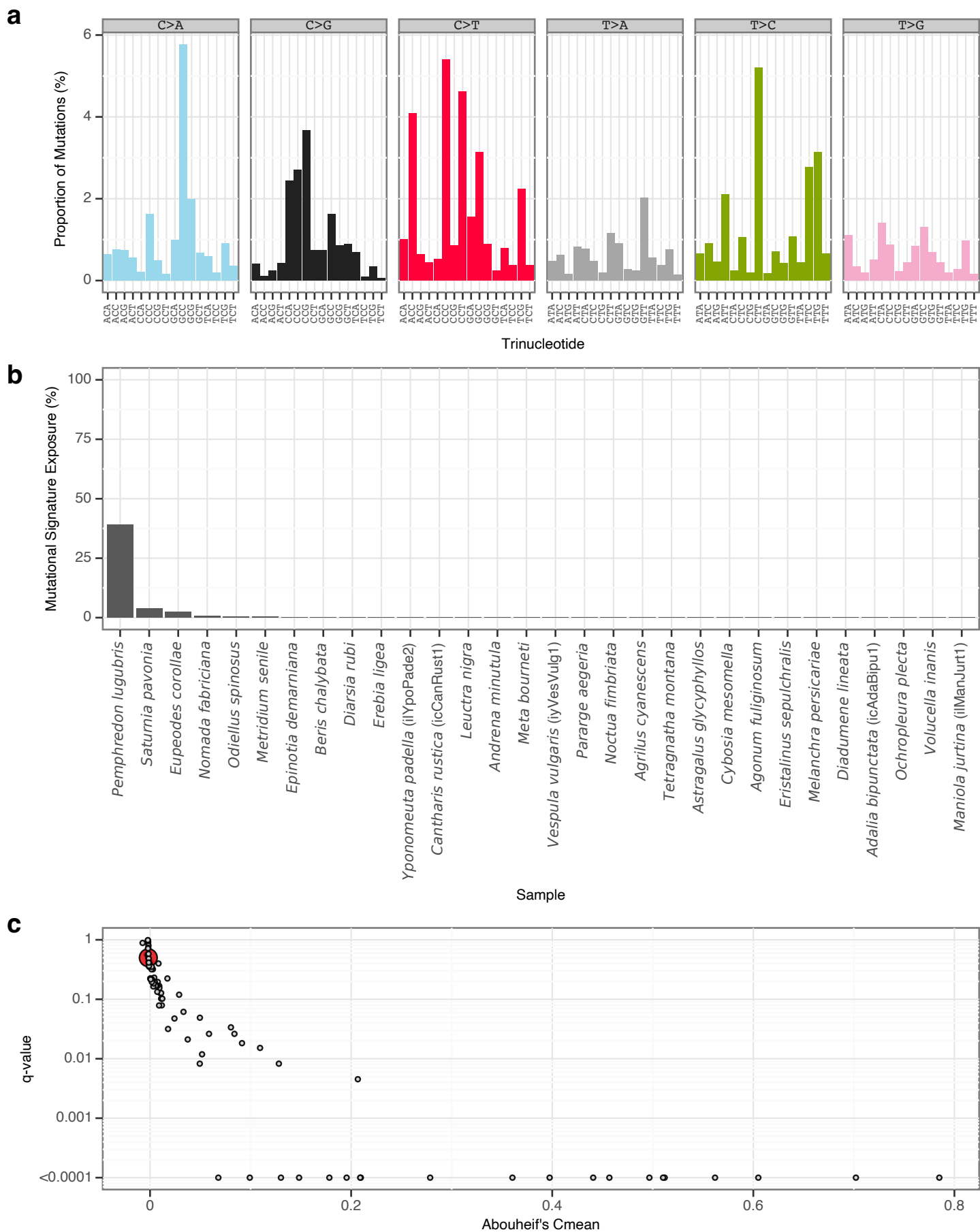


Supplementary Fig. 70 | sToL67 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

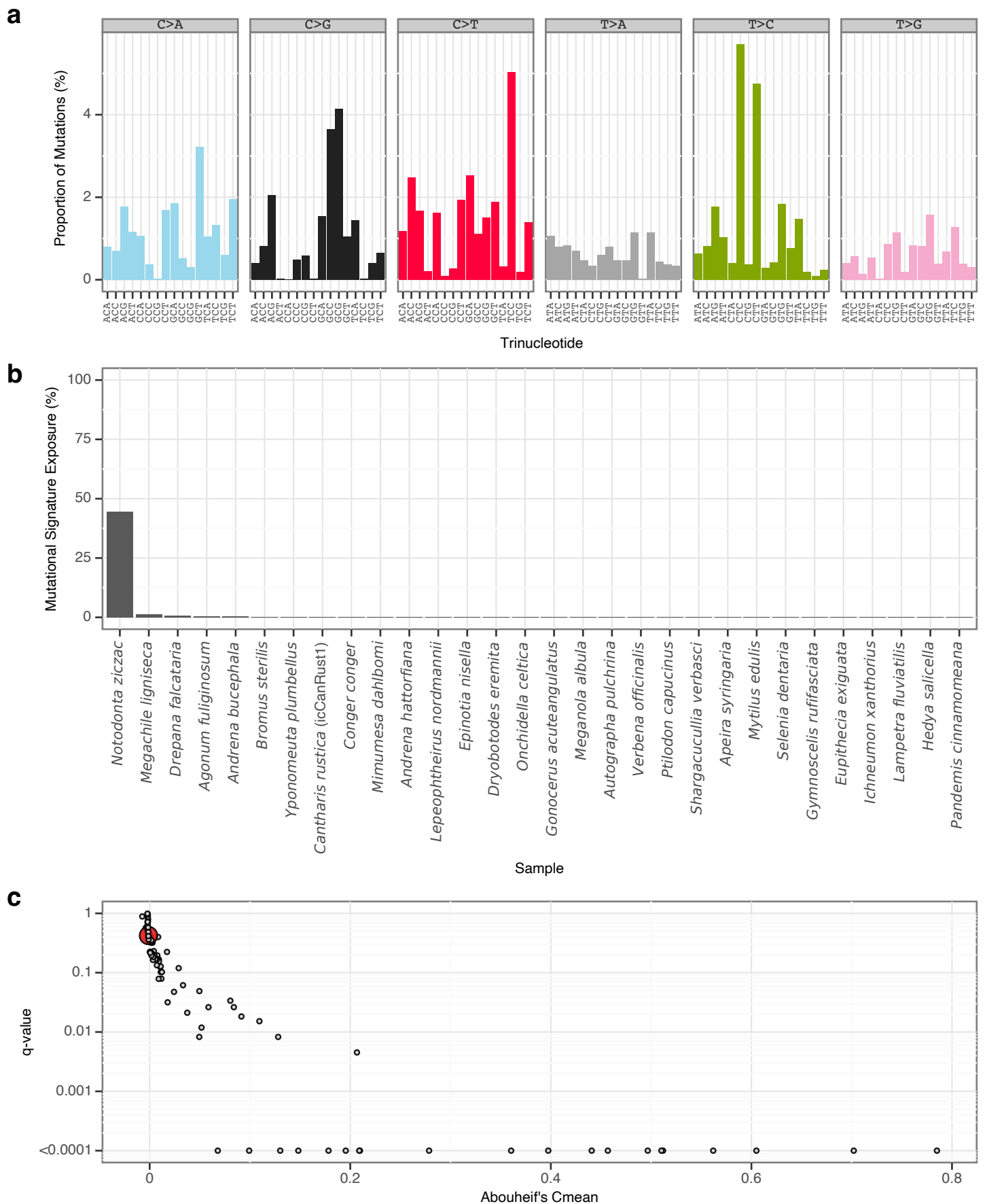


Supplementary Fig. 71 | sToL68 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

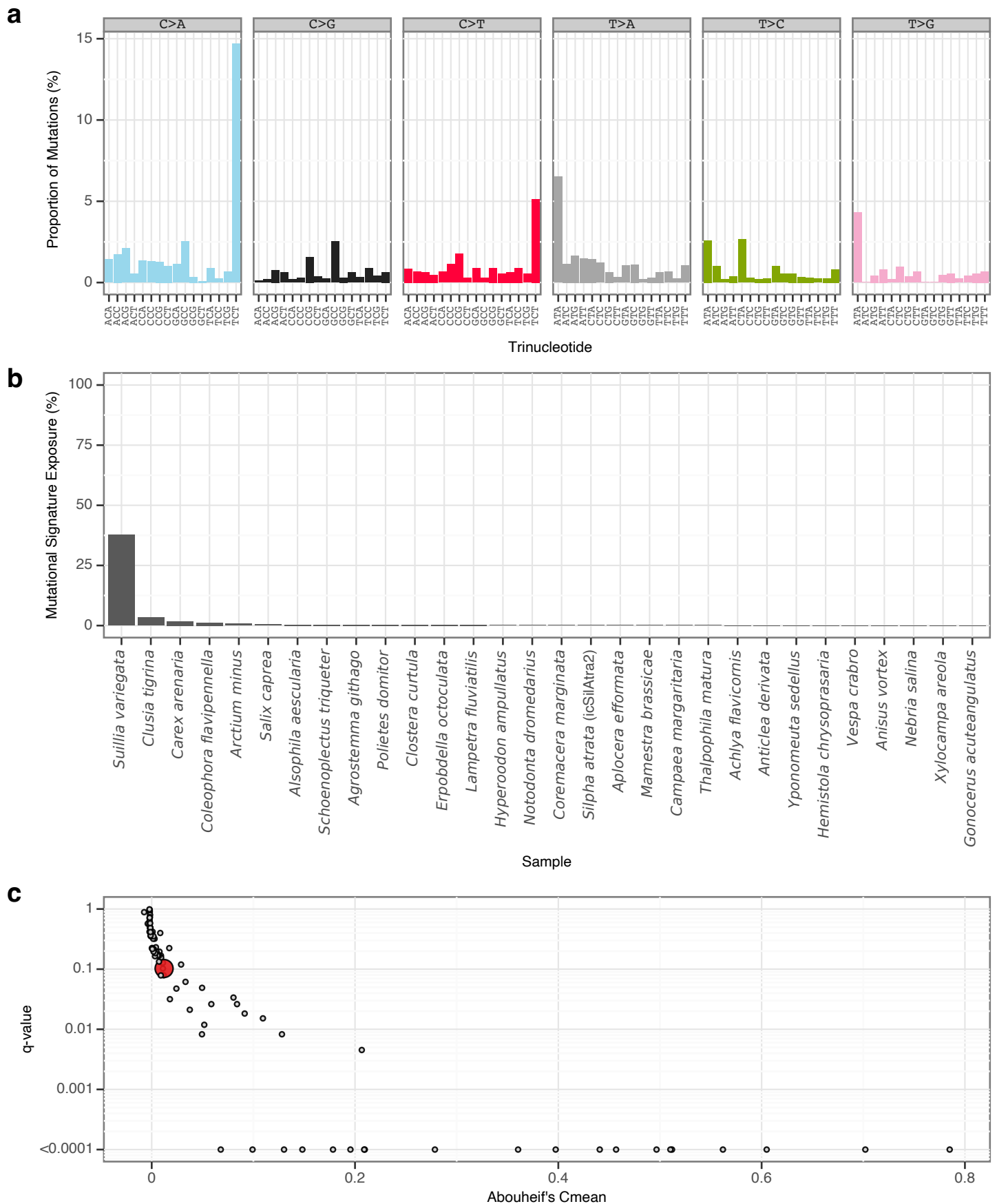


Supplementary Fig. 72 | sToL69 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

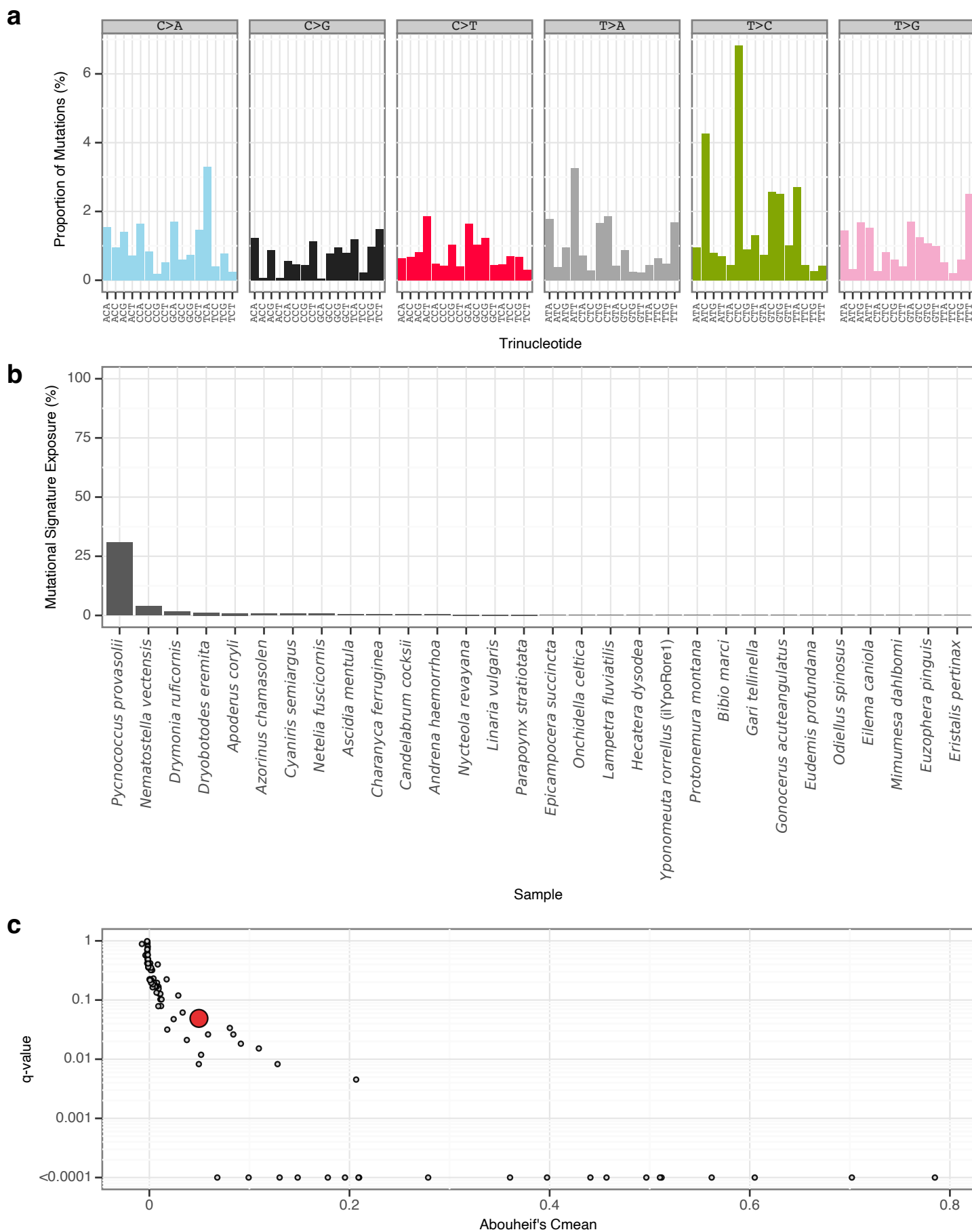


Supplementary Fig. 73 | sToL70 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

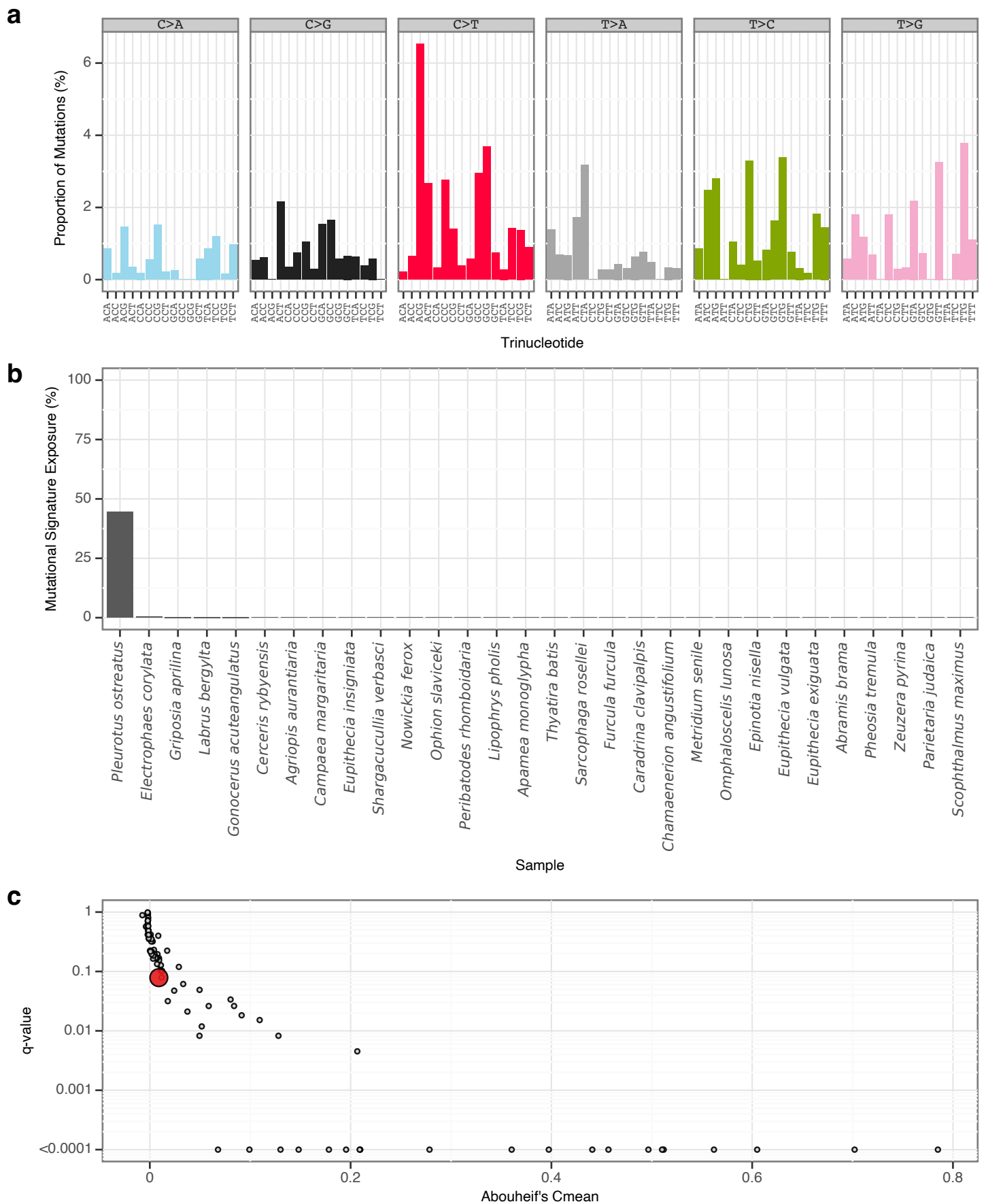


Supplementary Fig. 74 | sToL71 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

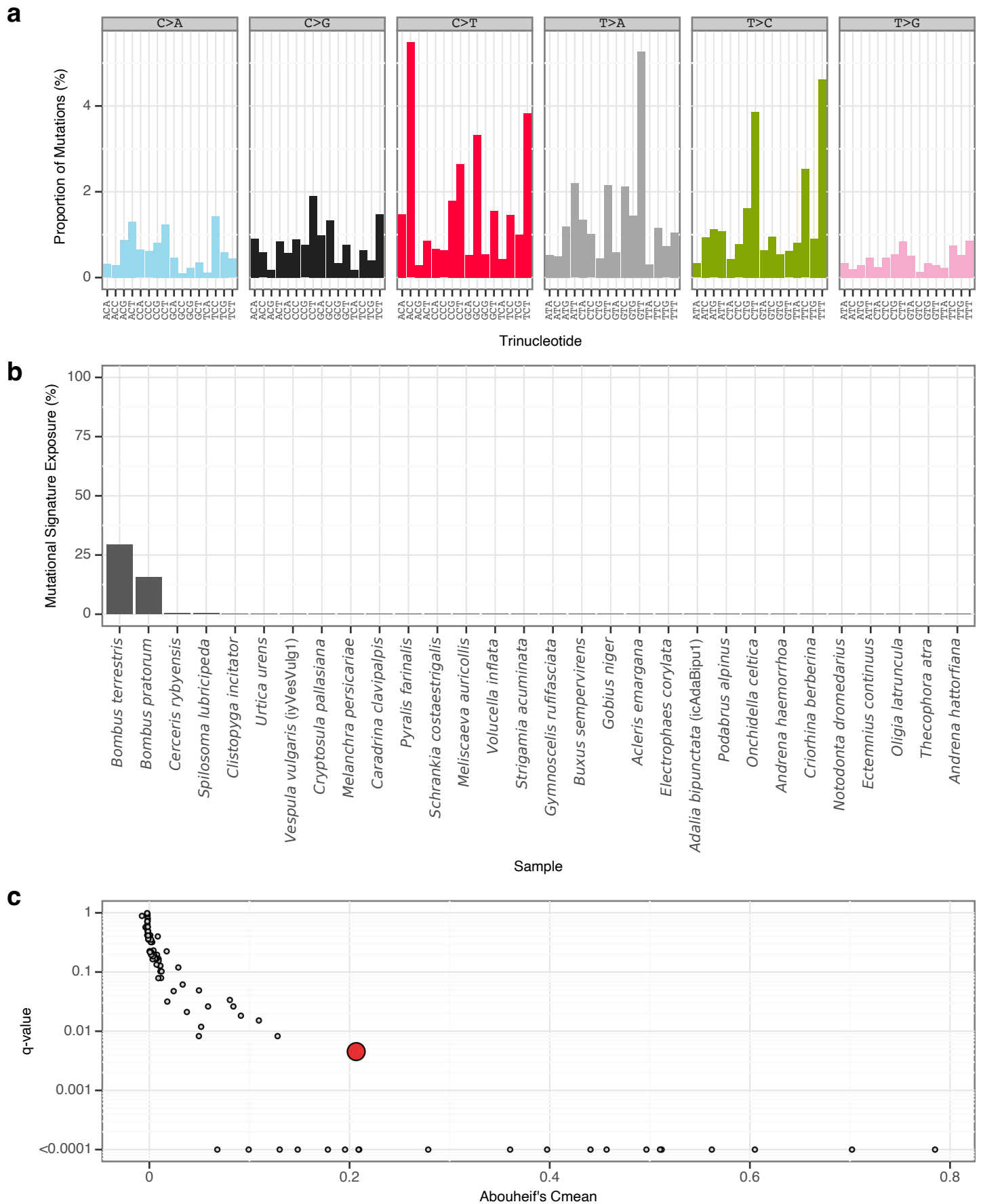


Supplementary Fig. 75 | sToL72 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

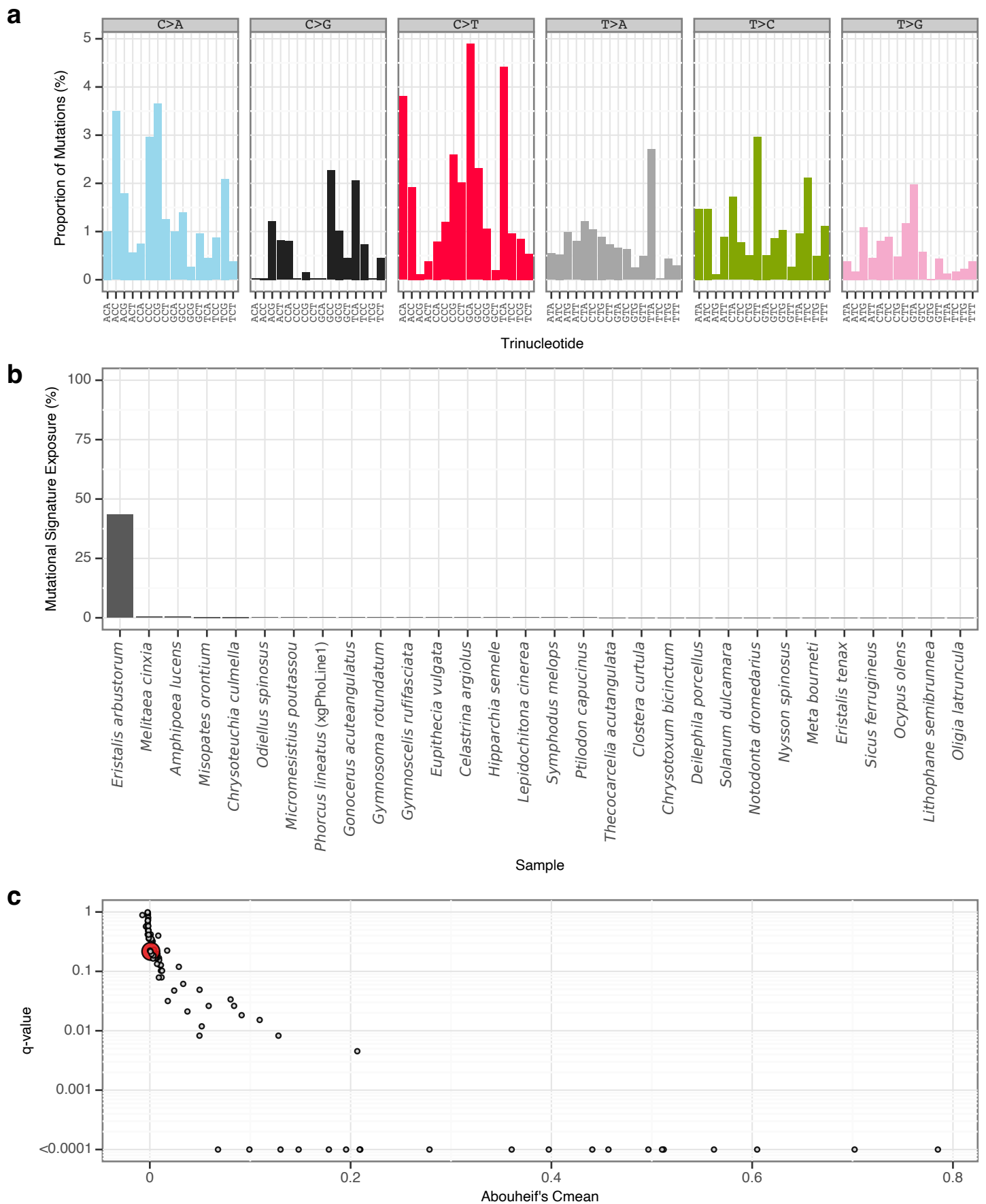


Supplementary Fig. 76 | sToL73 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

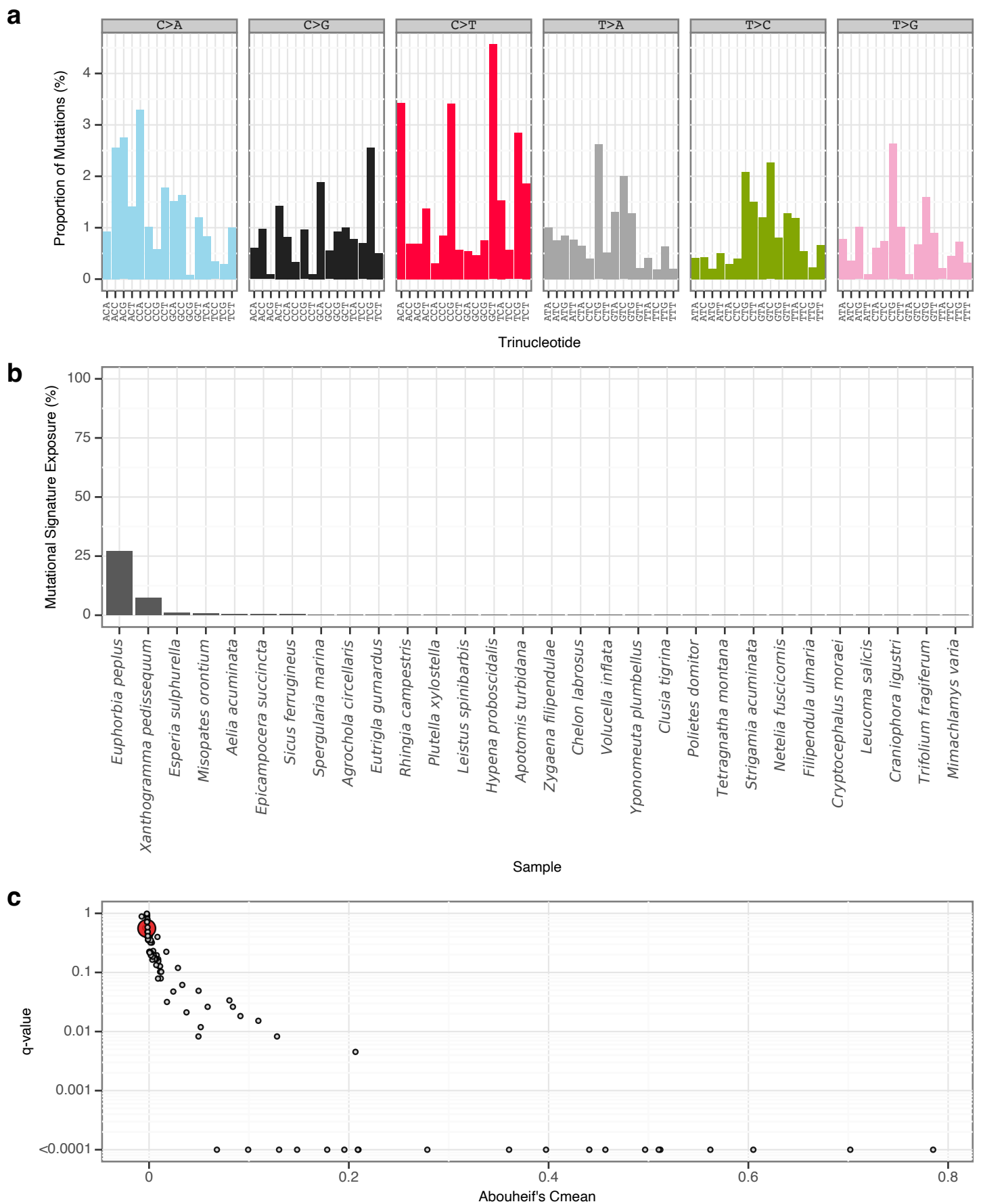


Supplementary Fig. 77 | sToL74 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

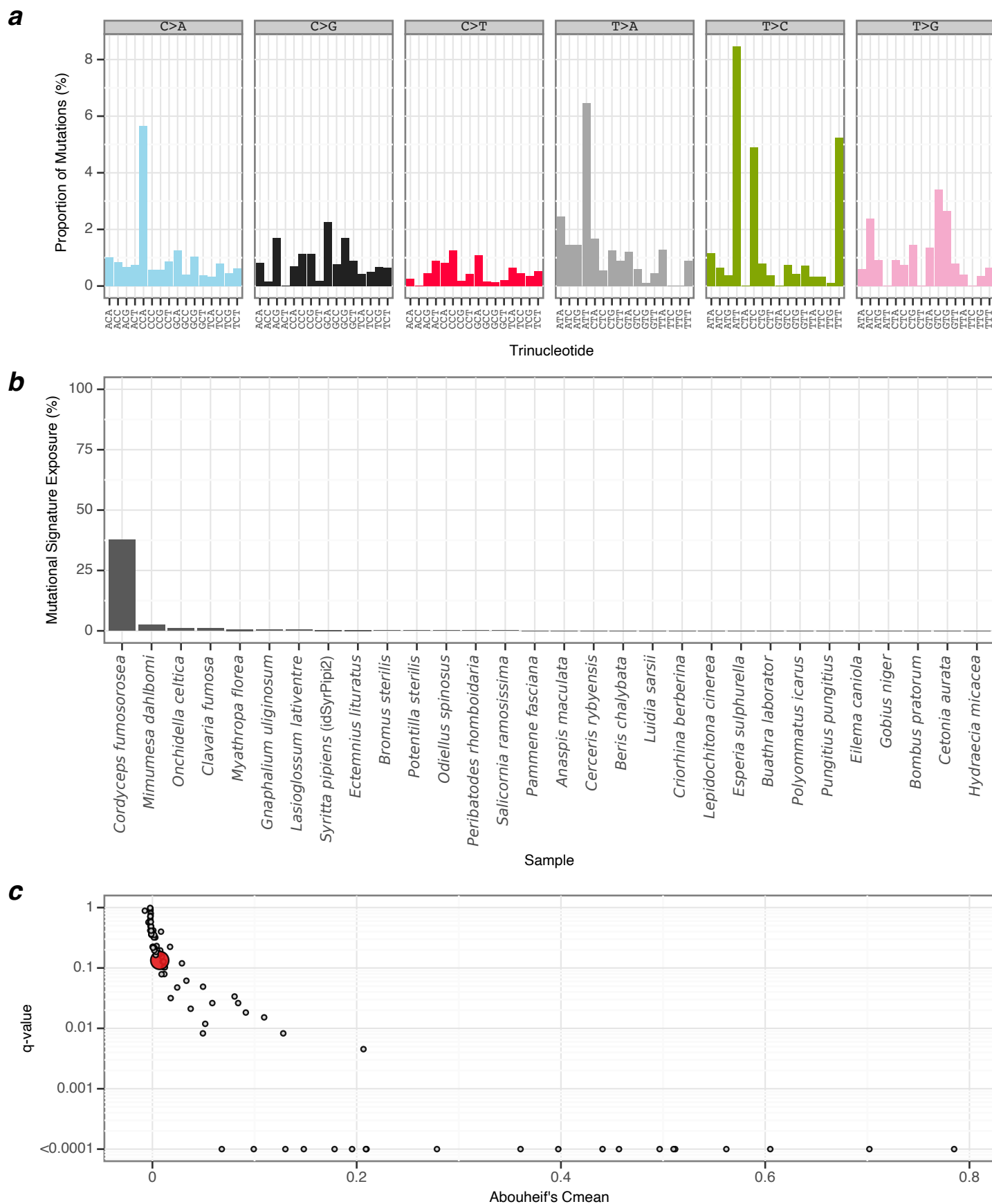


Supplementary Fig. 78 | sToL75 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

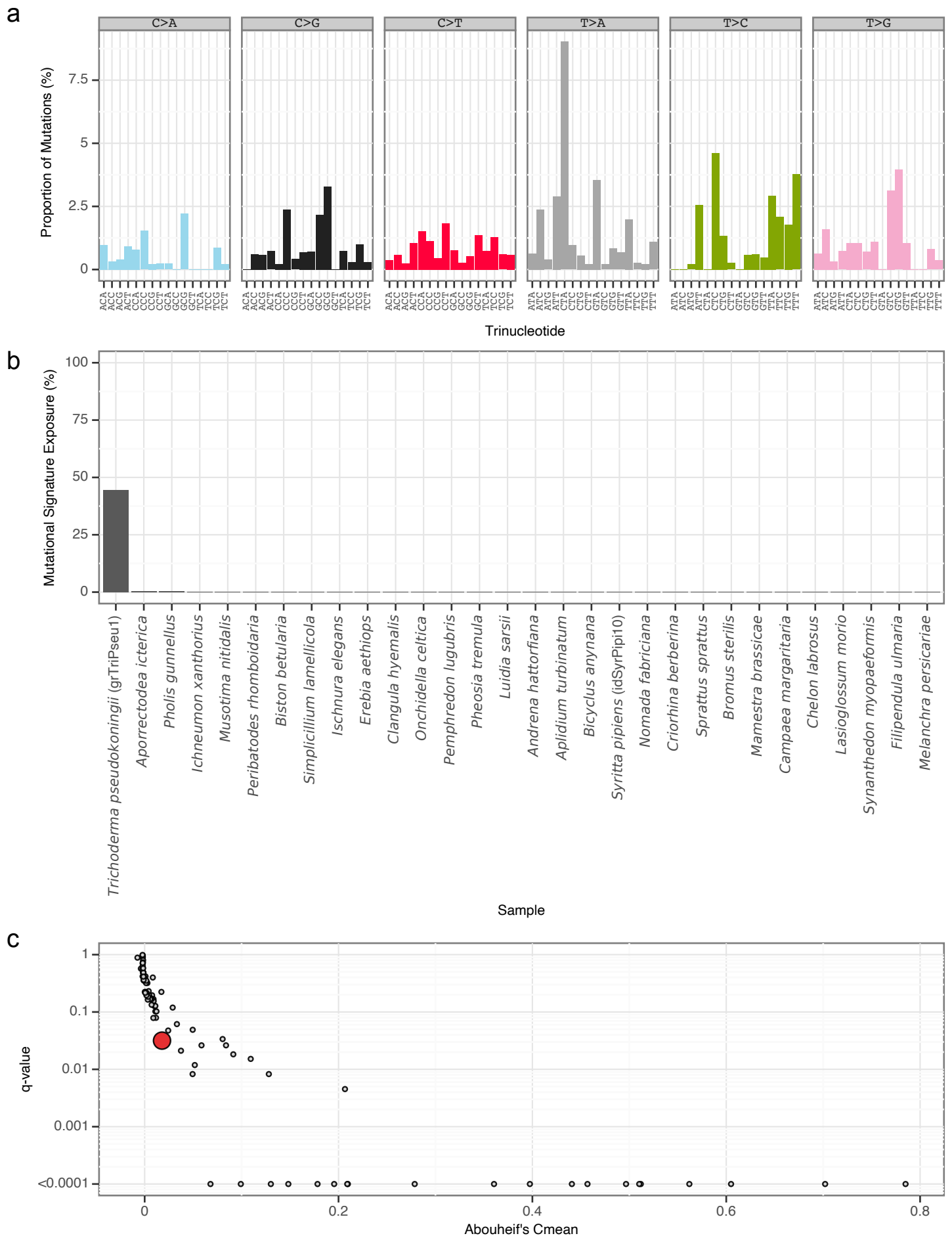


Supplementary Fig. 79 | sToL76 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

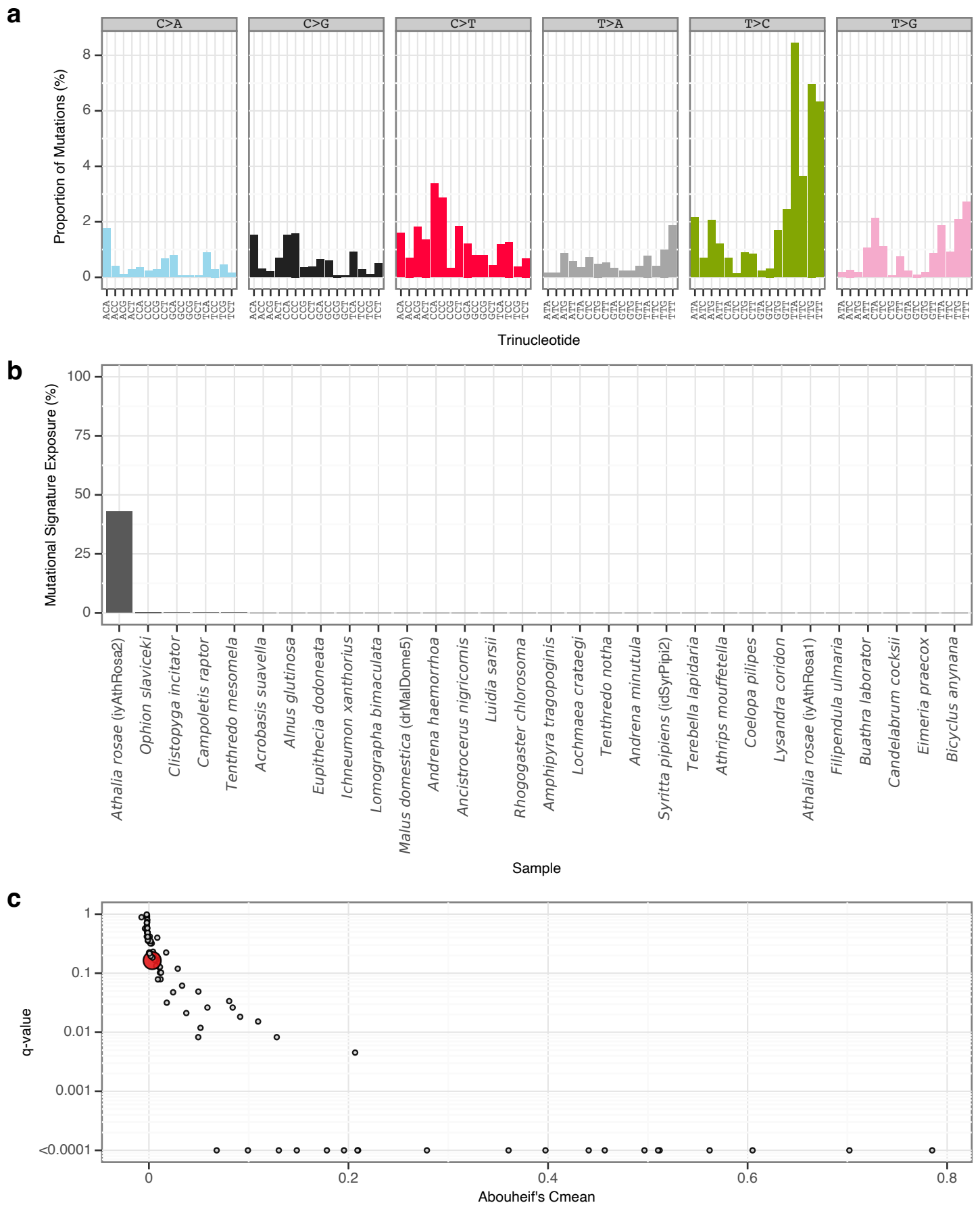


Supplementary Fig. 80 | sToL77 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

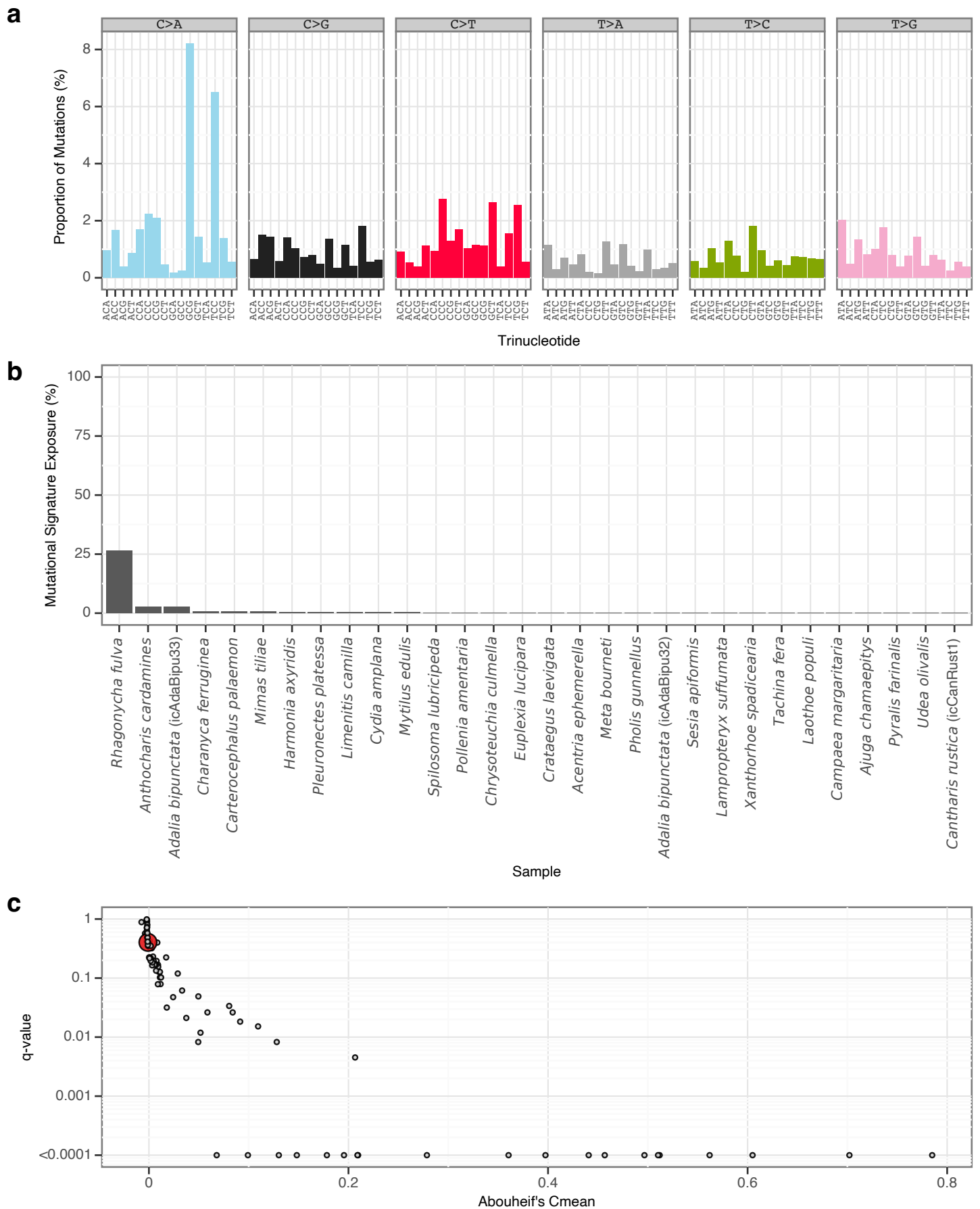


Supplementary Fig. 81 | sToL78 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

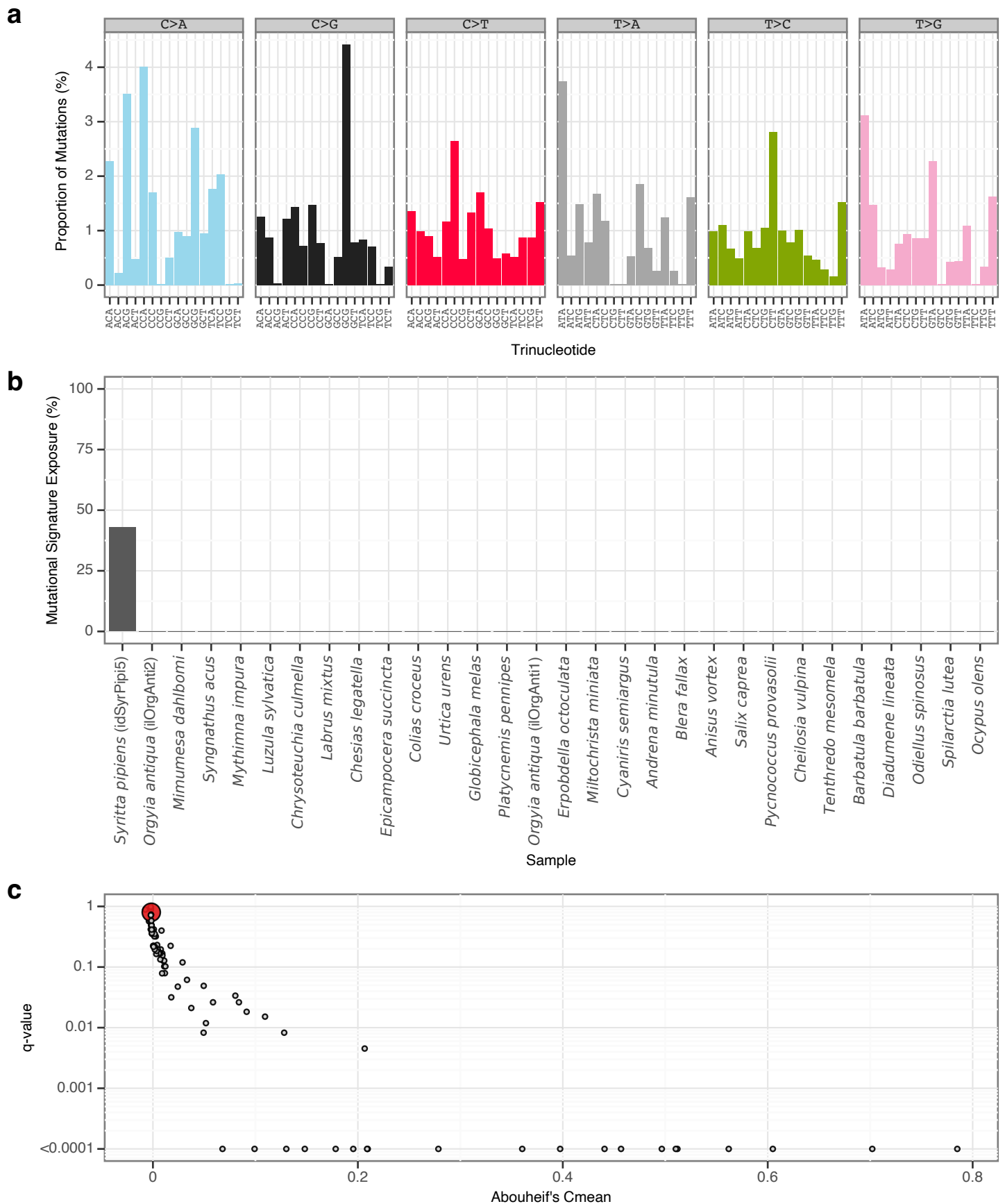


Supplementary Fig. 82 | sToL79 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

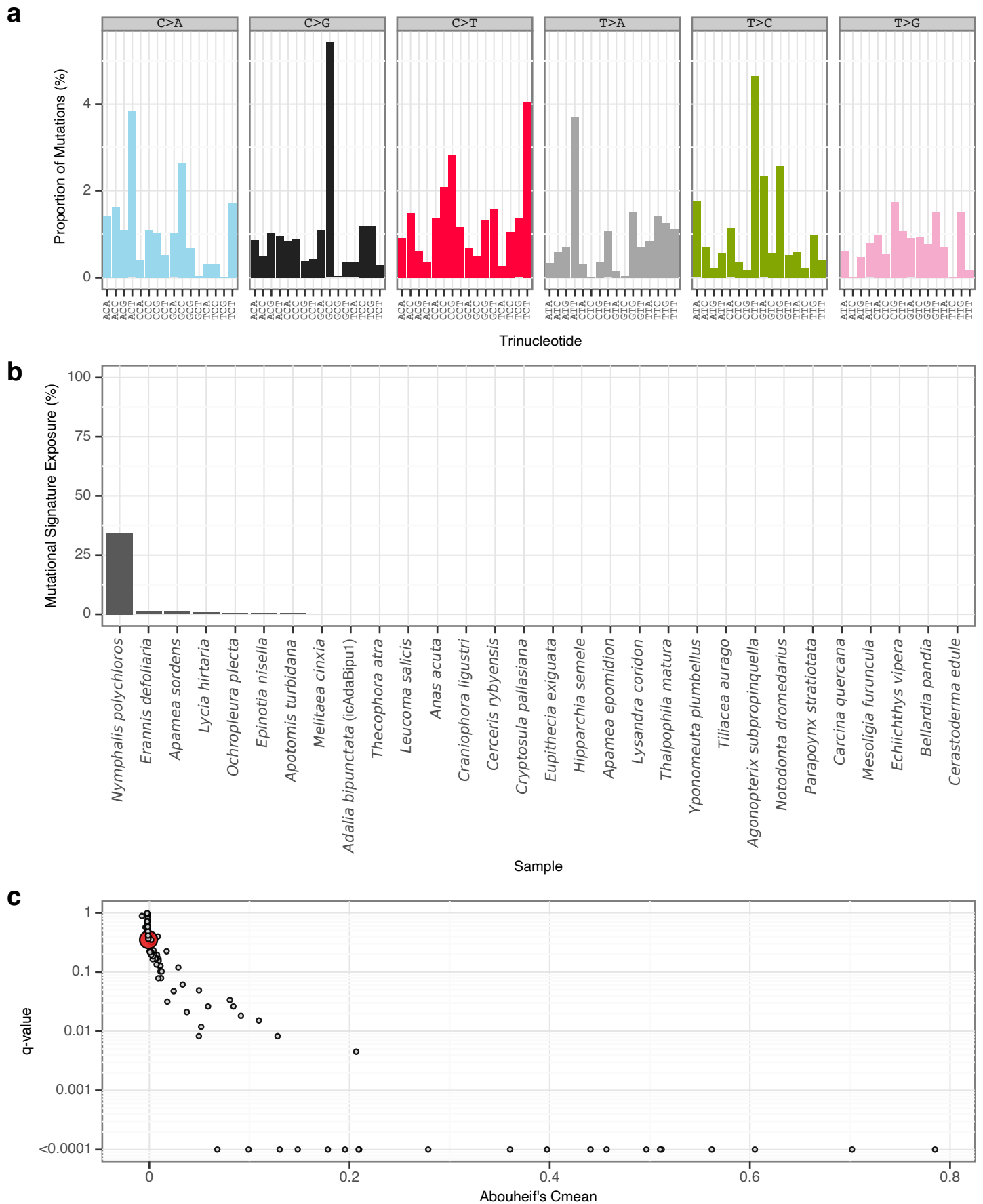


Supplementary Fig. 83 | sToL80 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

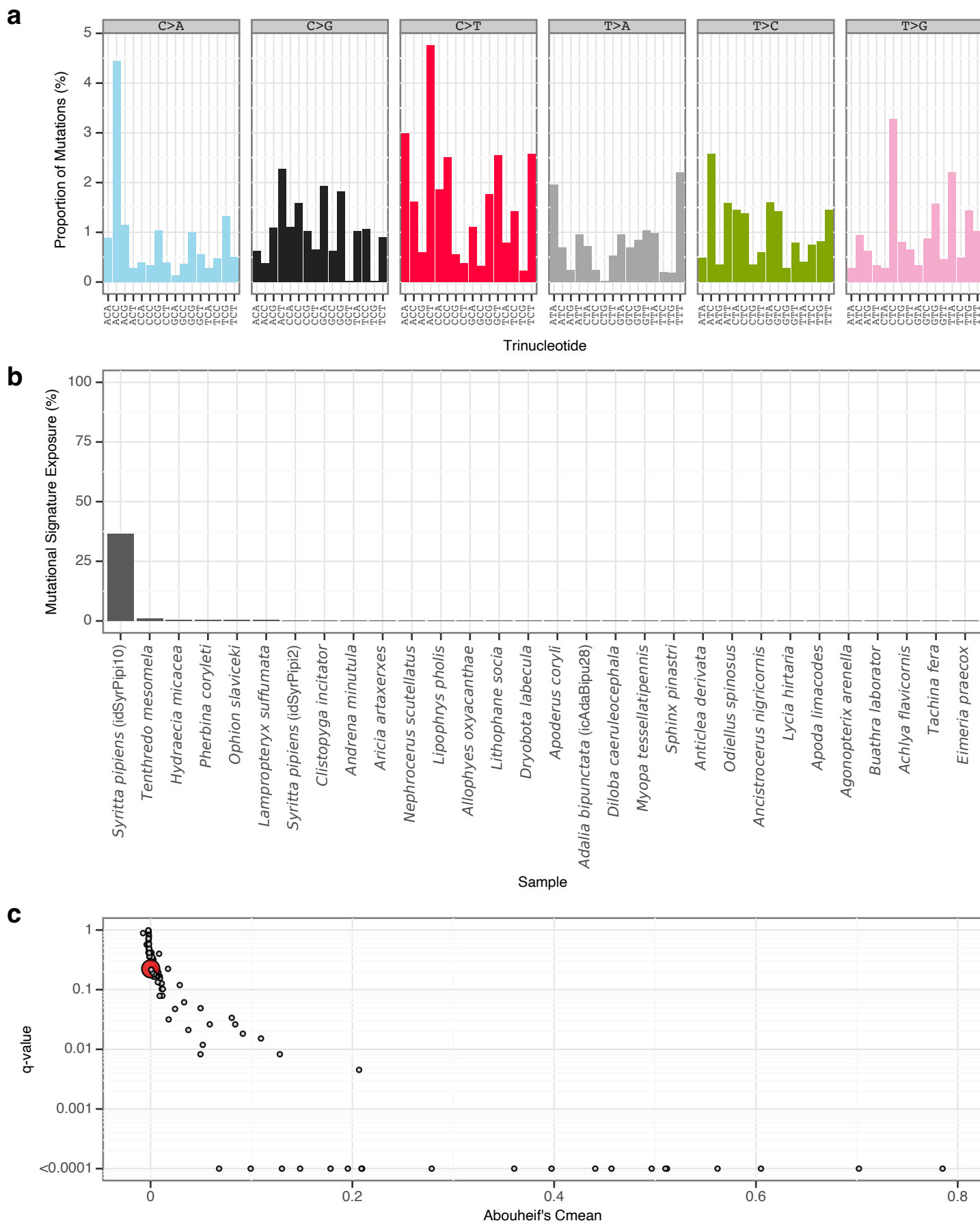


Supplementary Fig. 84 | sToL81 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

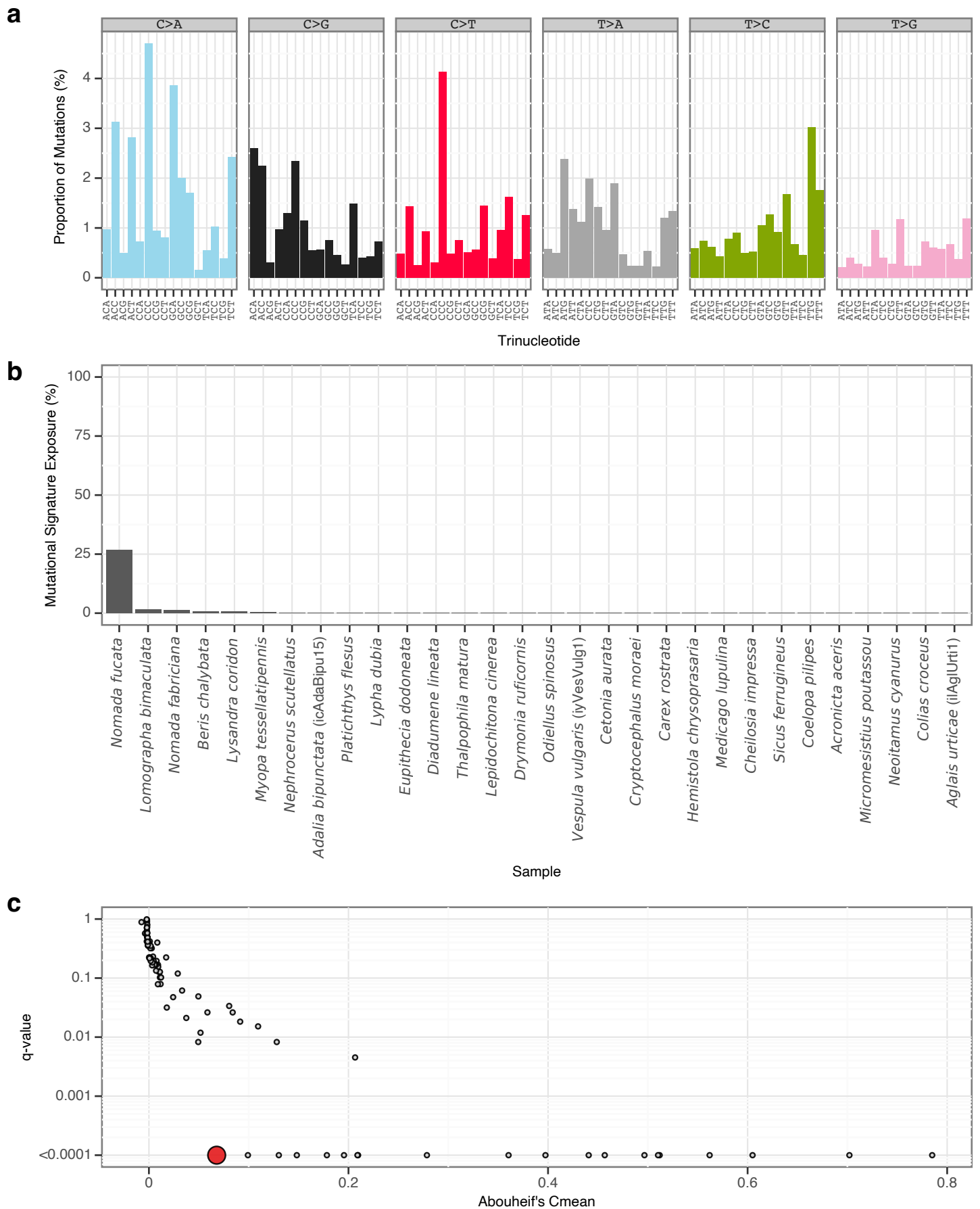


Supplementary Fig. 85 | sToL82 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

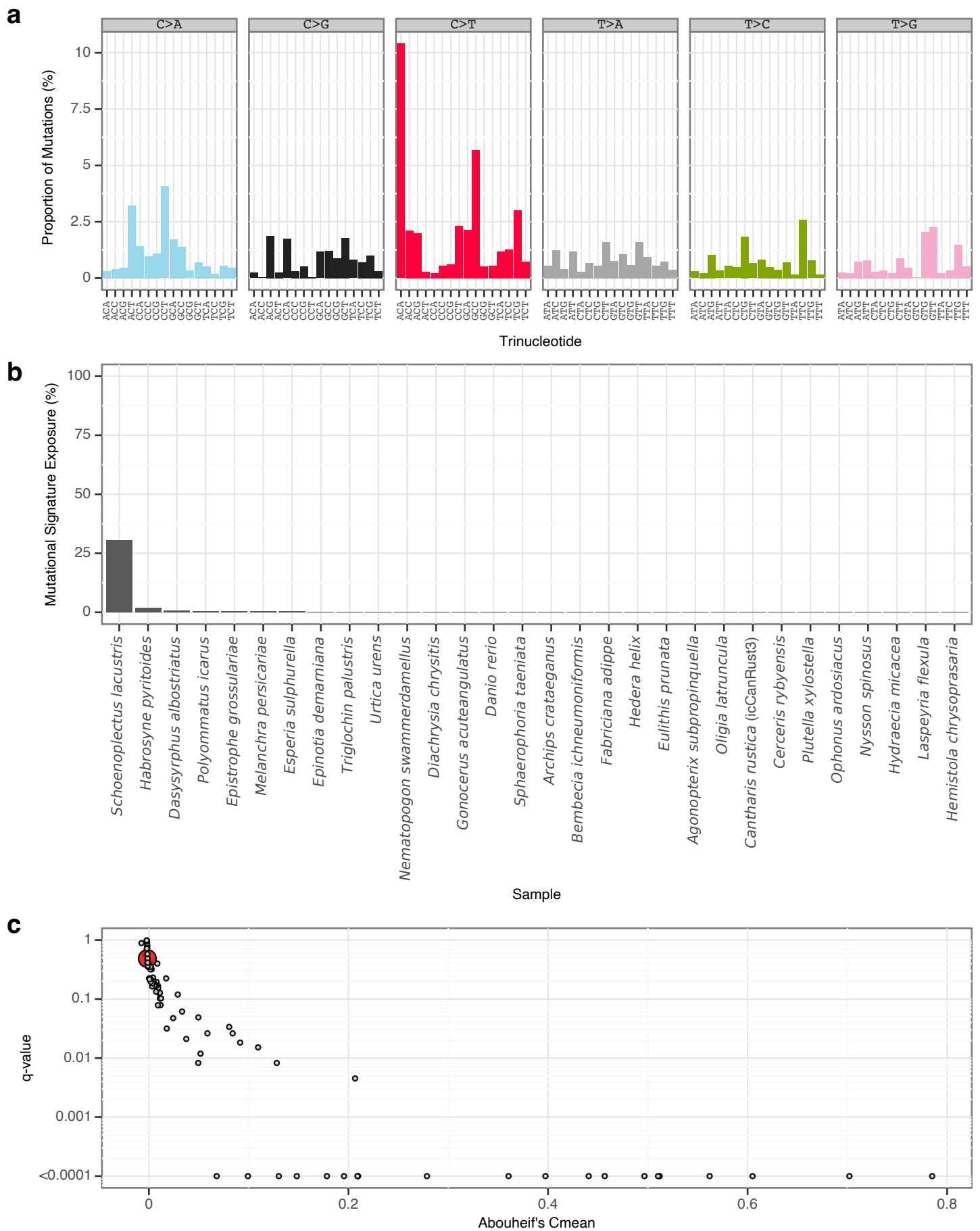


Supplementary Fig. 86 | sToL83 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

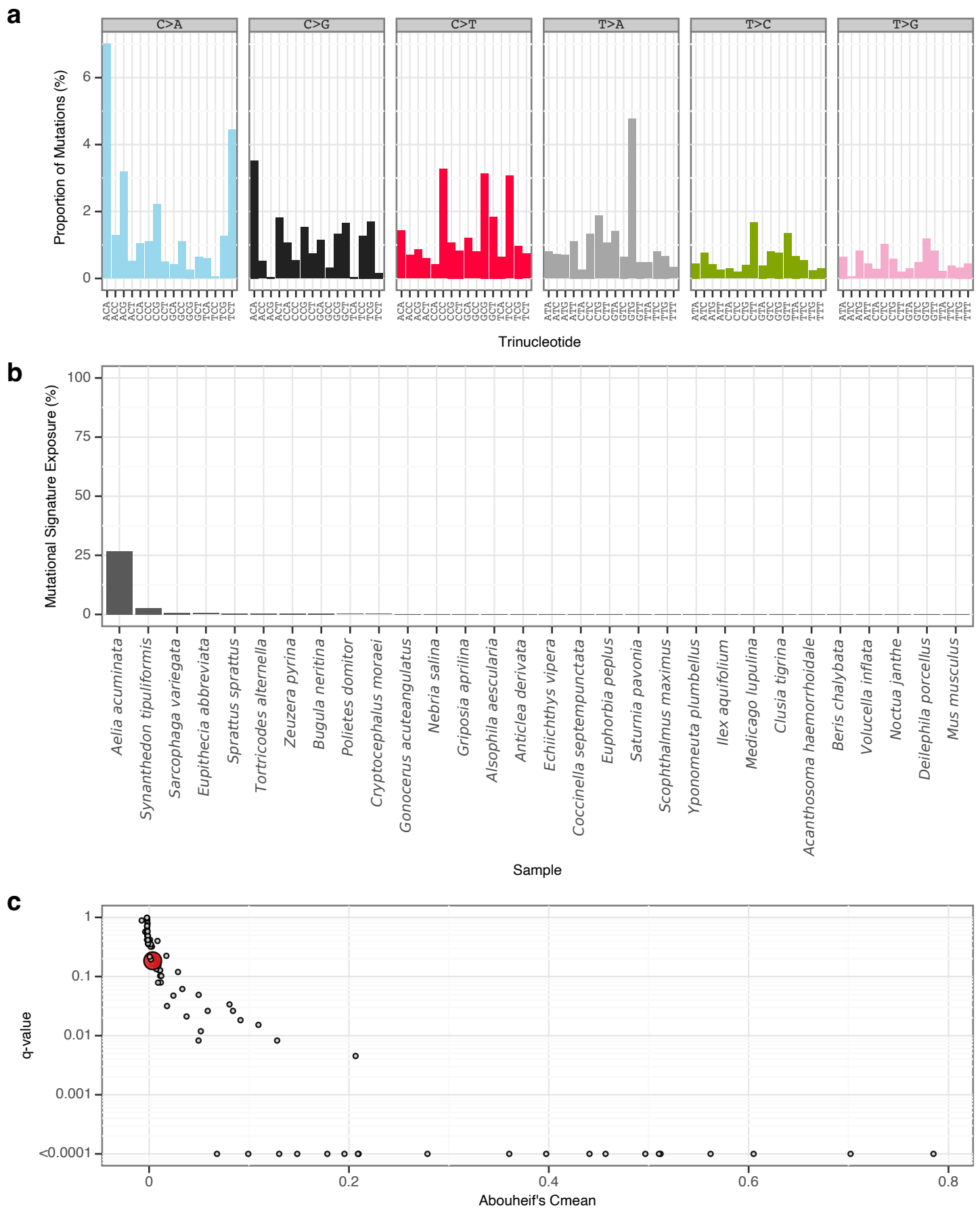


Supplementary Fig. 87 | sToL84 mutational signature.

a, Mutational signature spectrum..

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

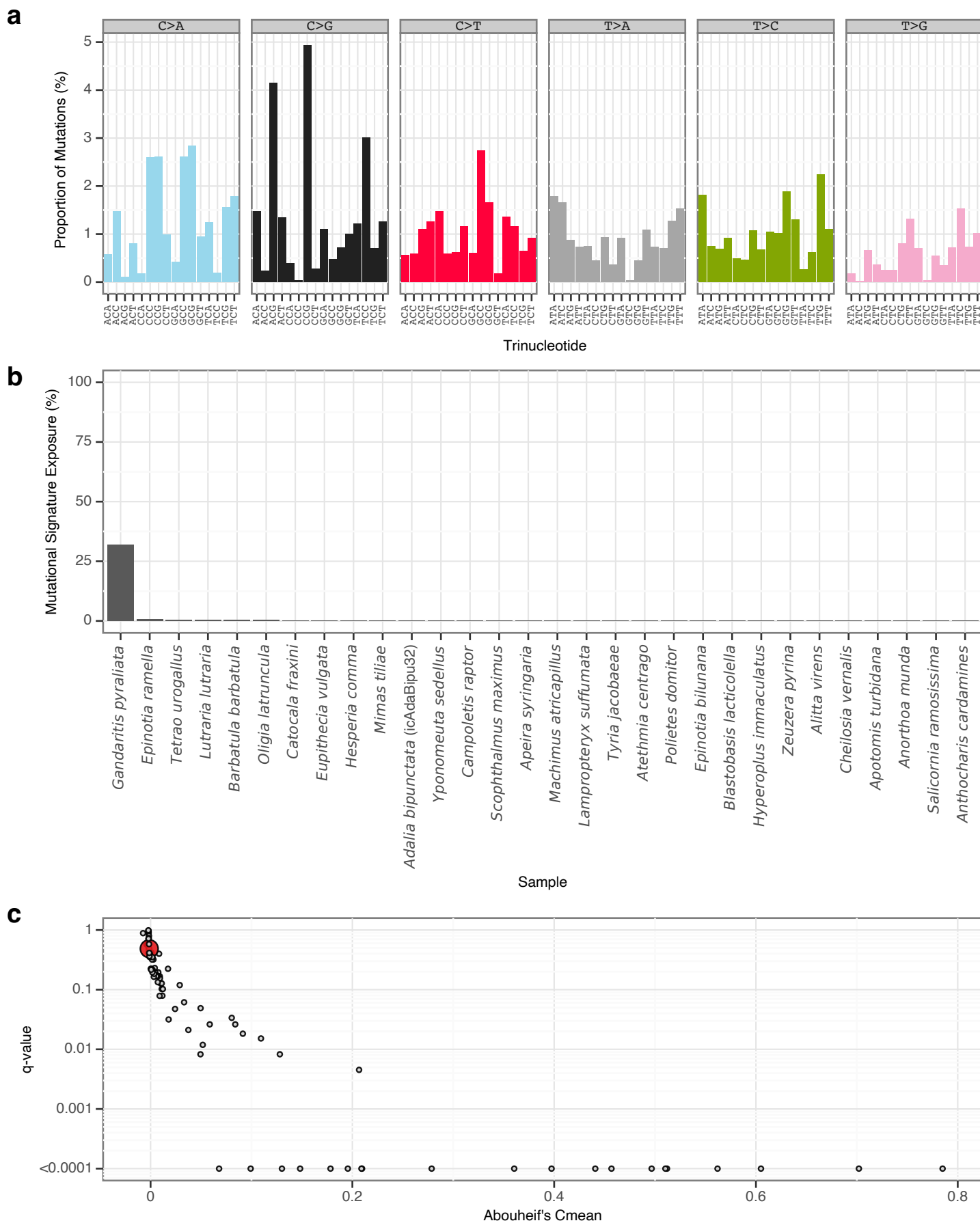


Supplementary Fig. 88 | sToL85 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

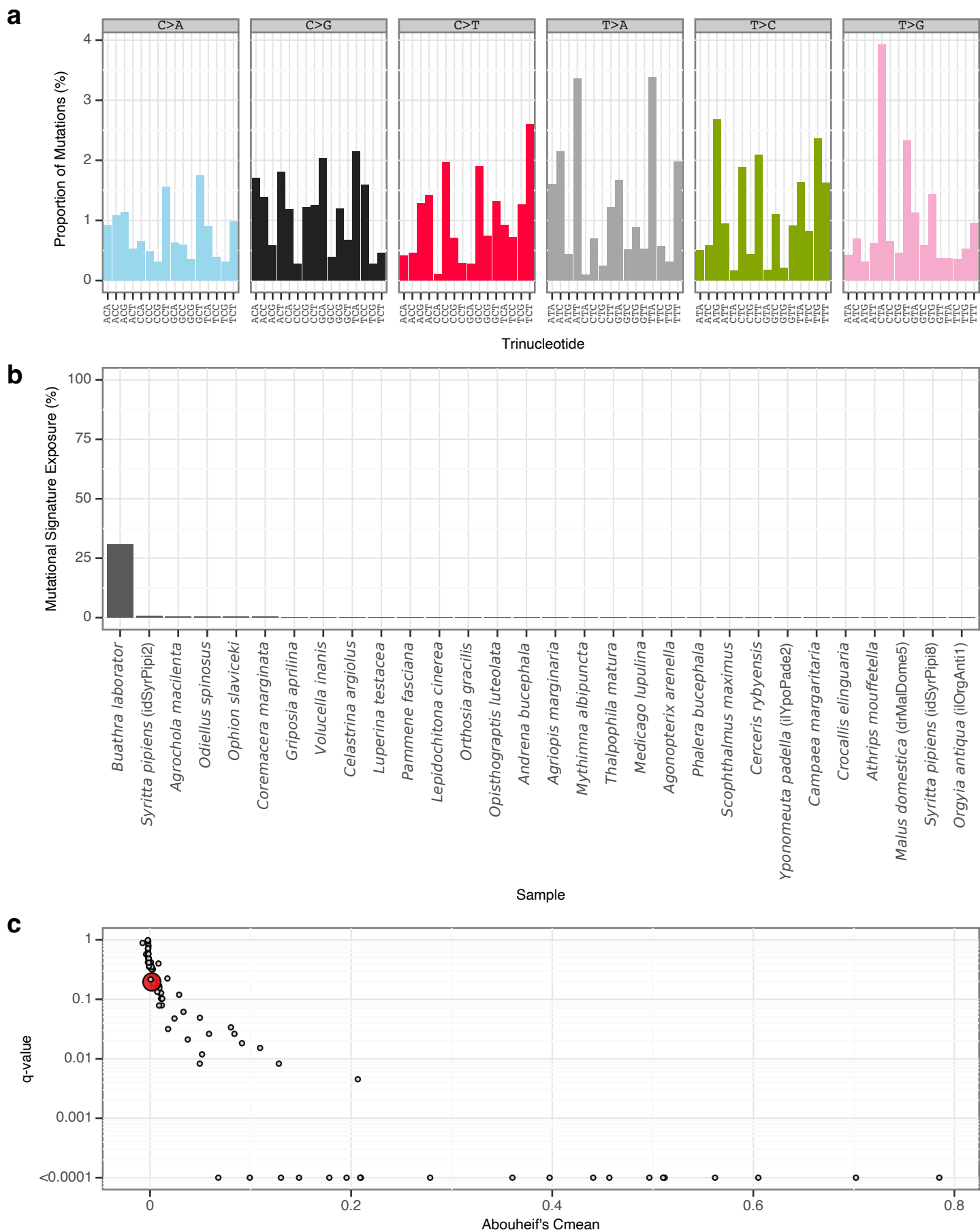


Supplementary Fig. 89 | sToL86 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

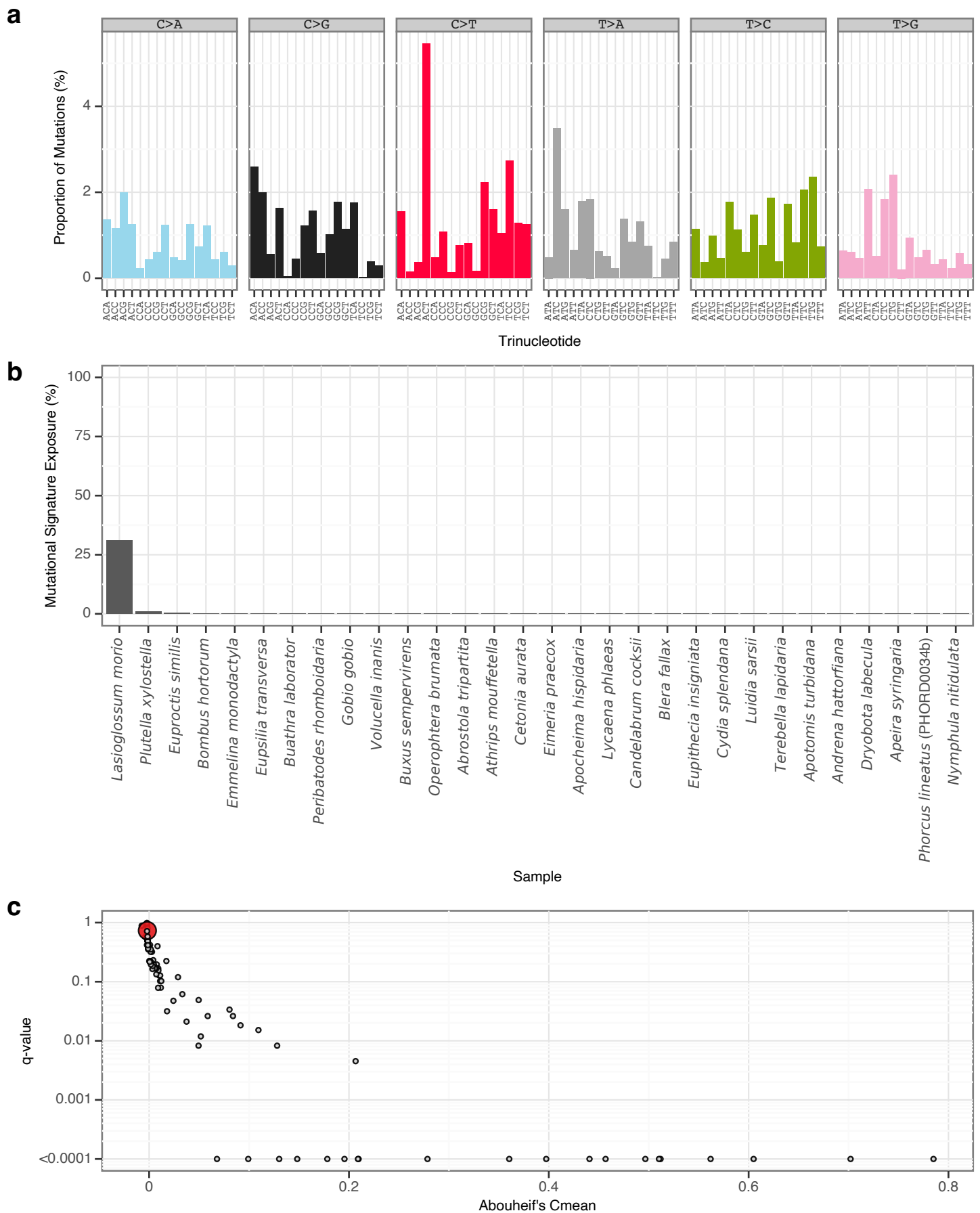


Supplementary Fig. 90 | sToL87 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

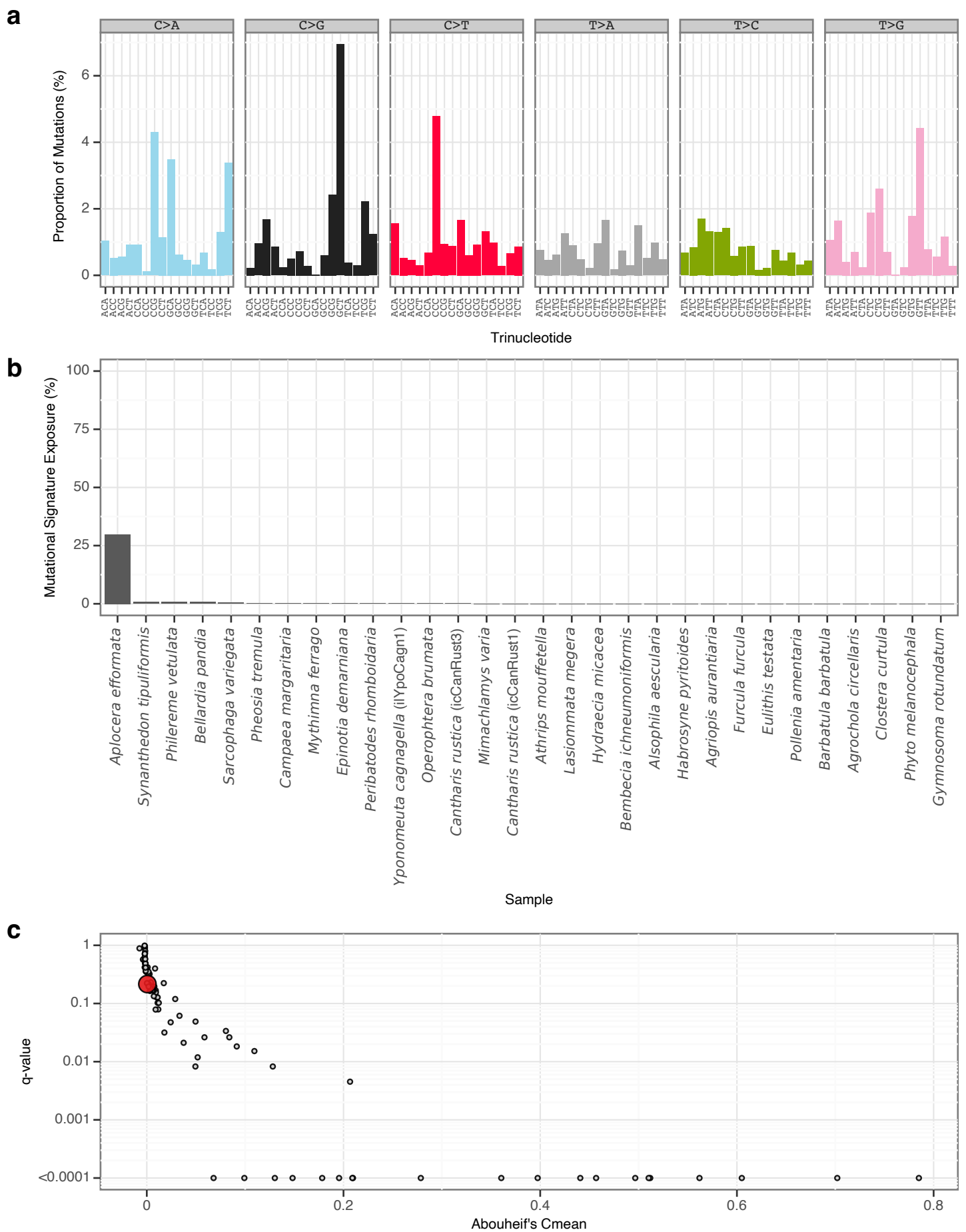


Supplementary Fig. 91 | sToL88 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

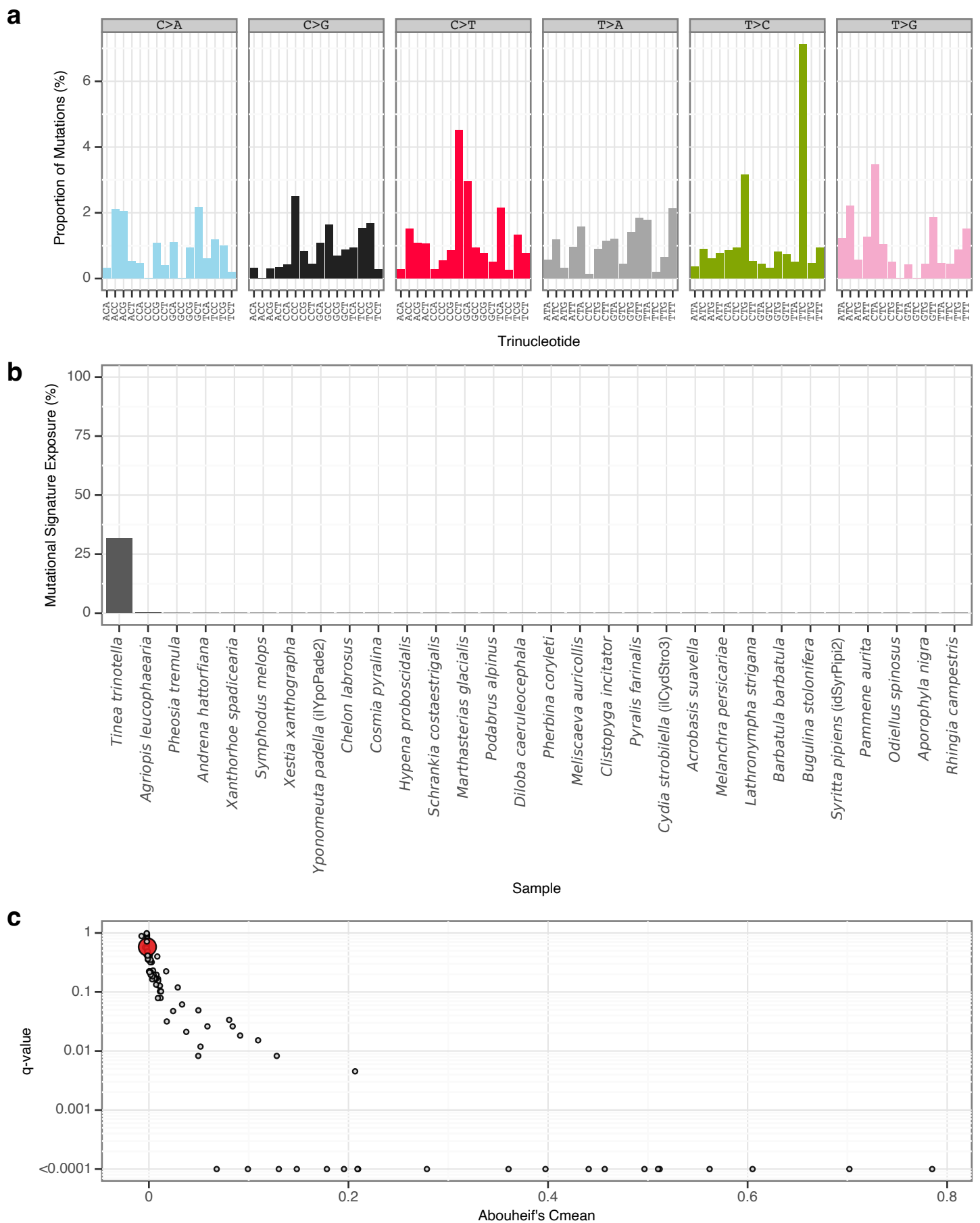


Supplementary Fig. 92 | sToL89 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

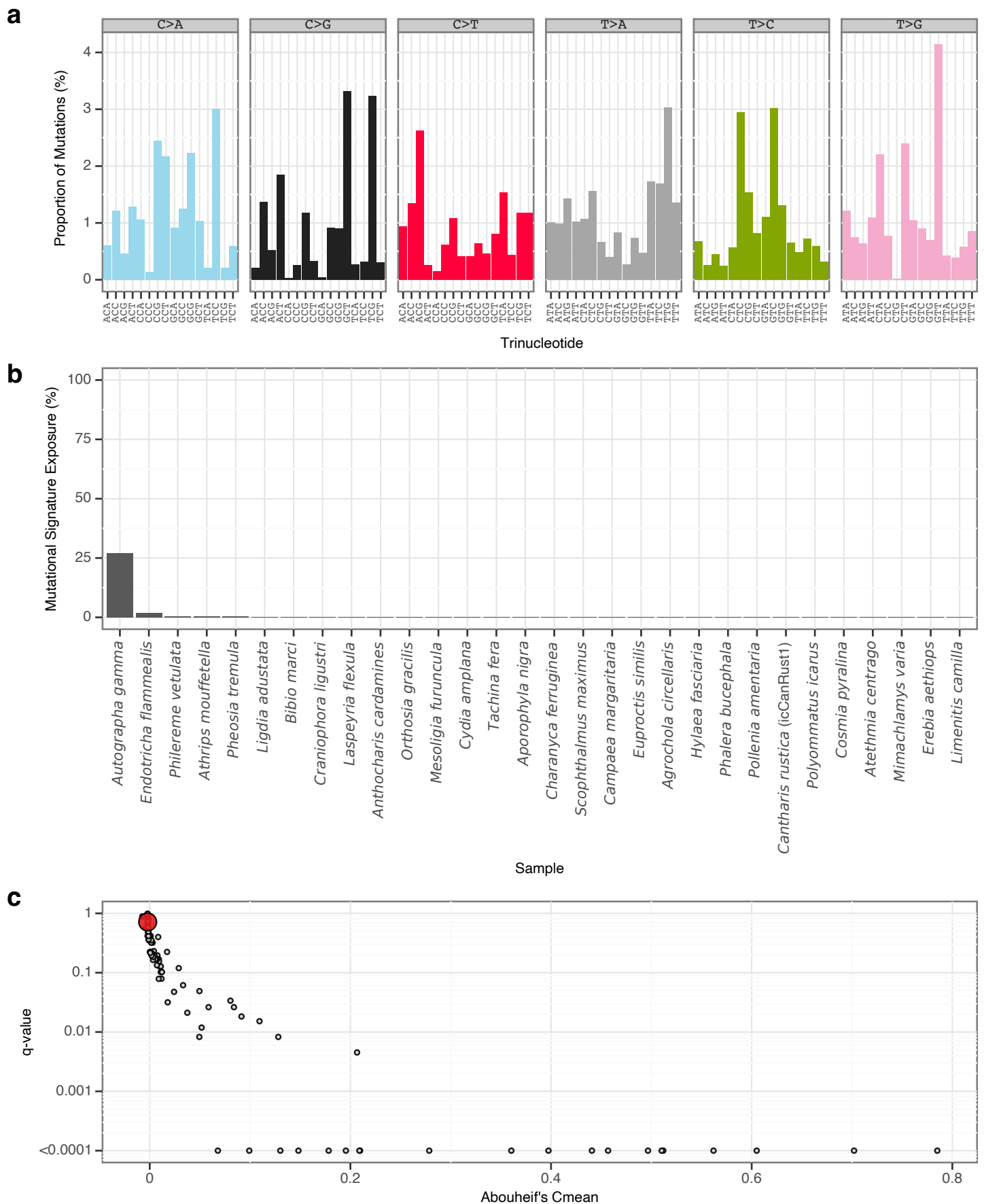


Supplementary Fig. 93 | sToL90 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

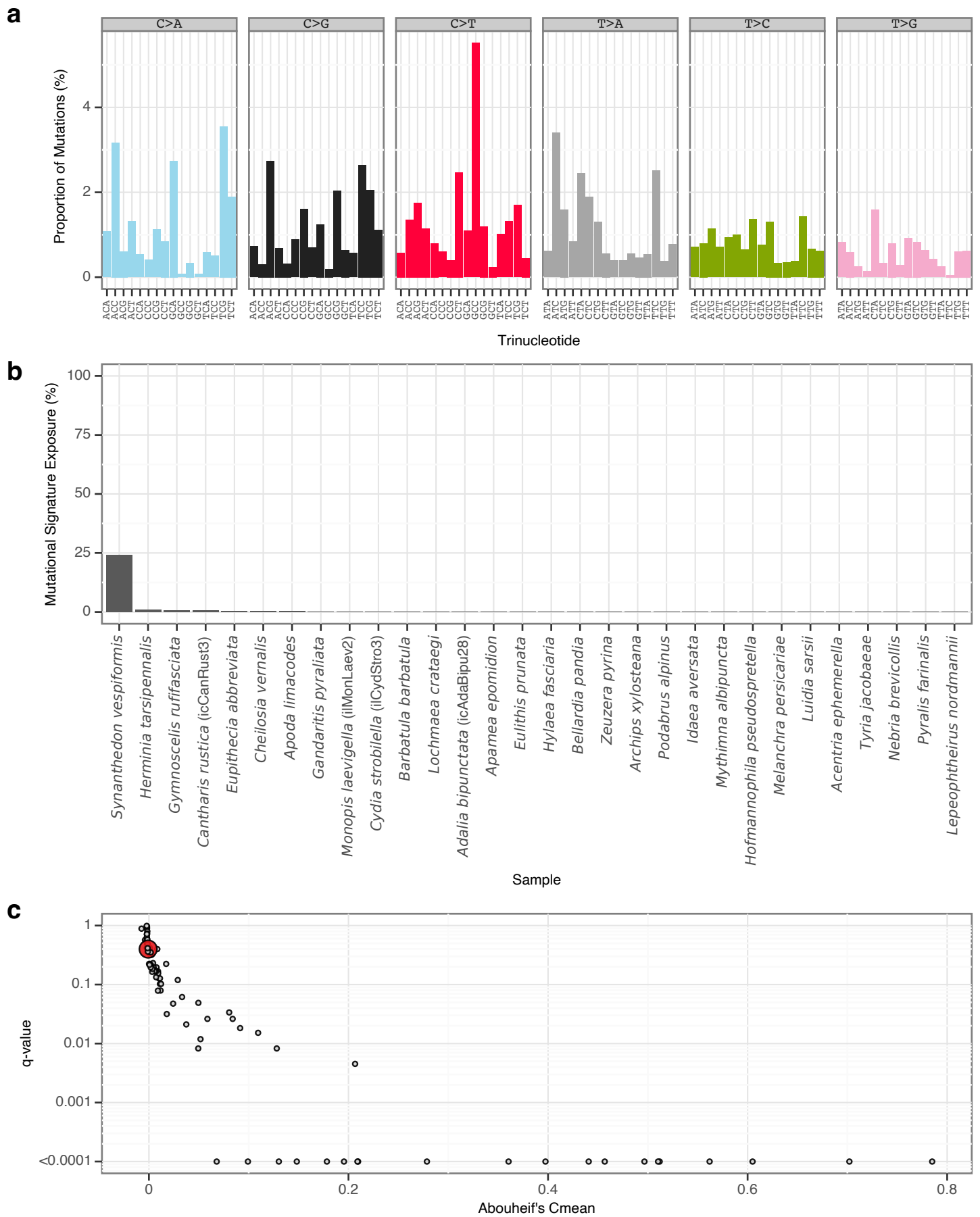


Supplementary Fig. 94 | sToL91 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

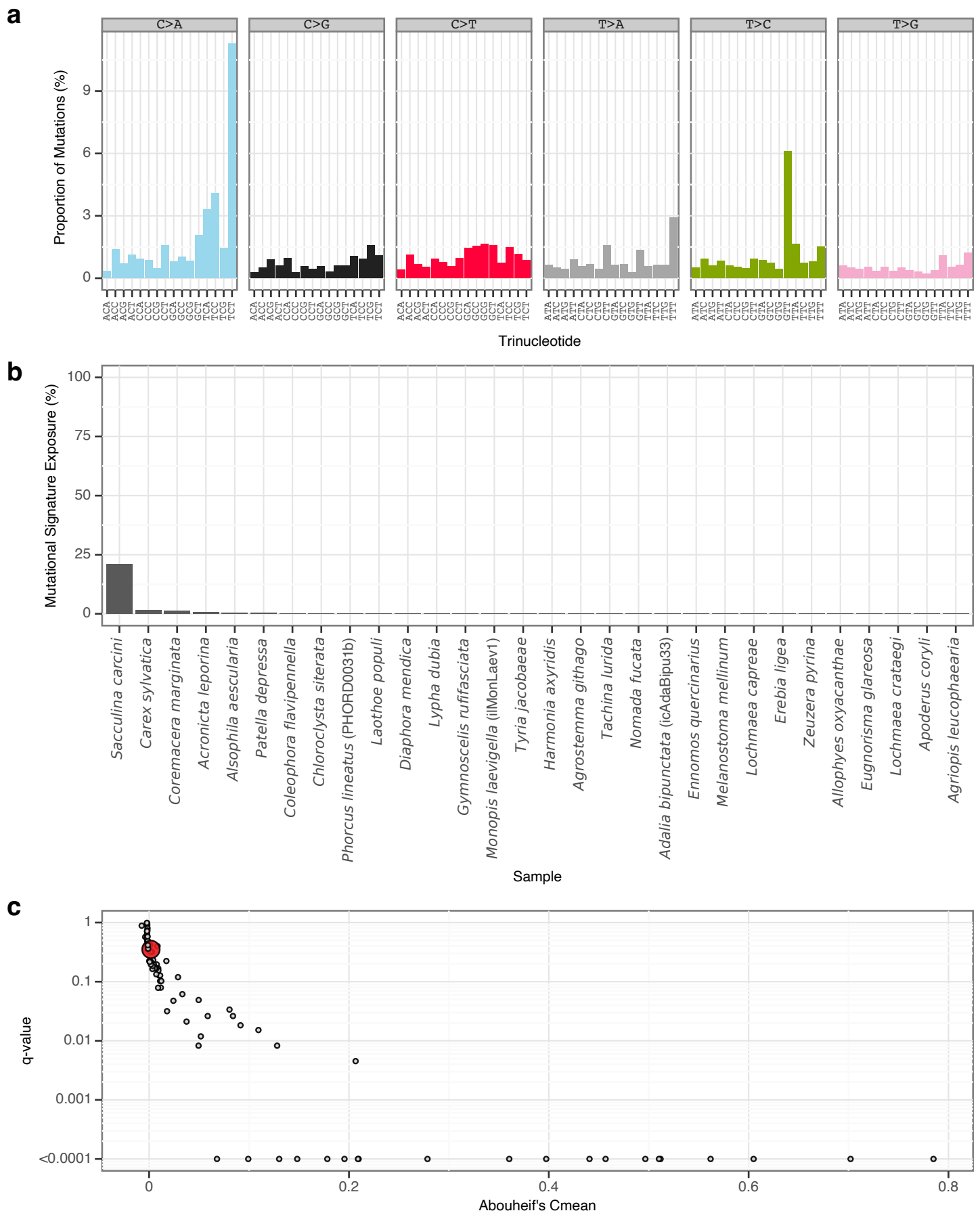


Supplementary Fig. 95 | sToL92 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

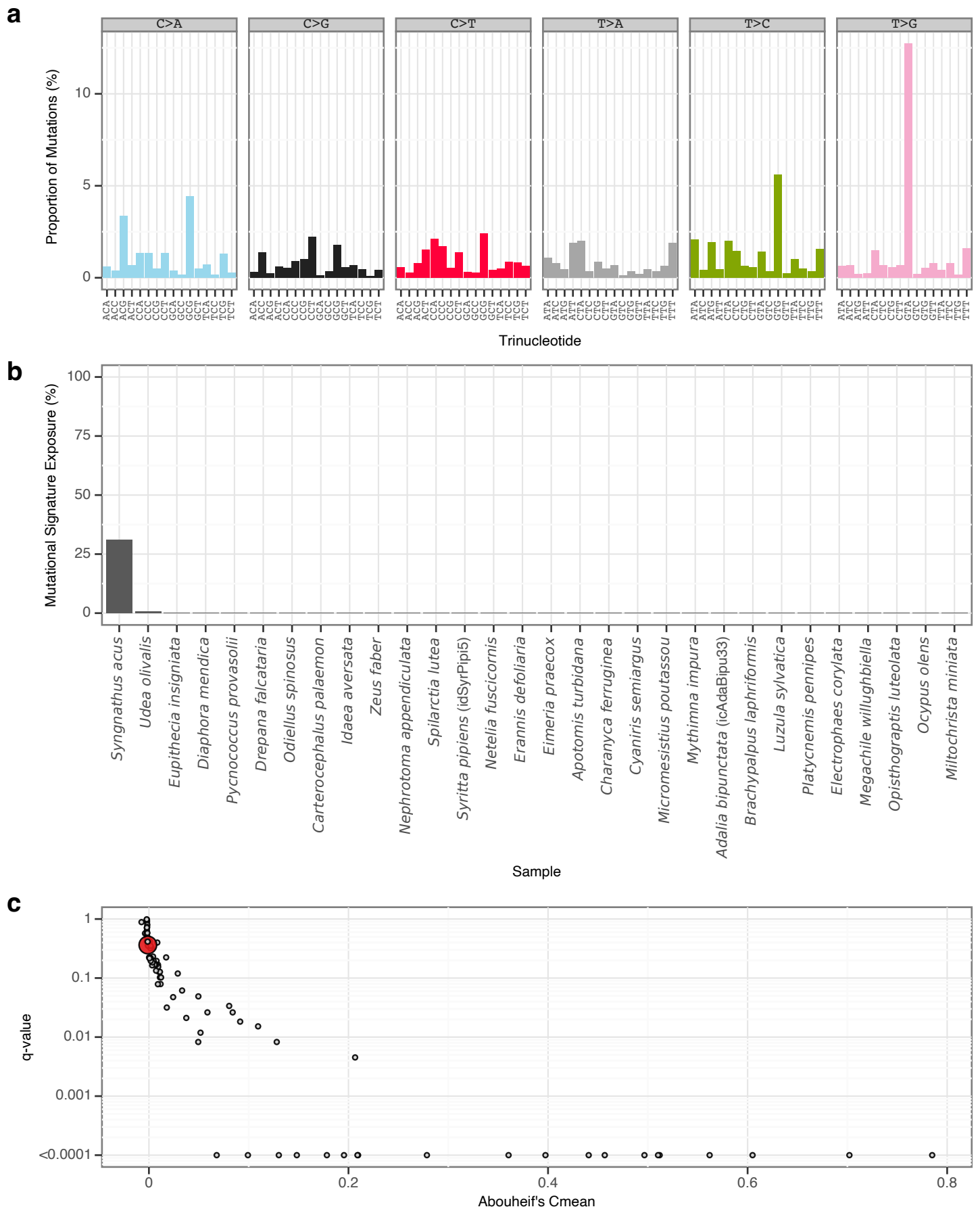


Supplementary Fig. 96 | sToL93 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

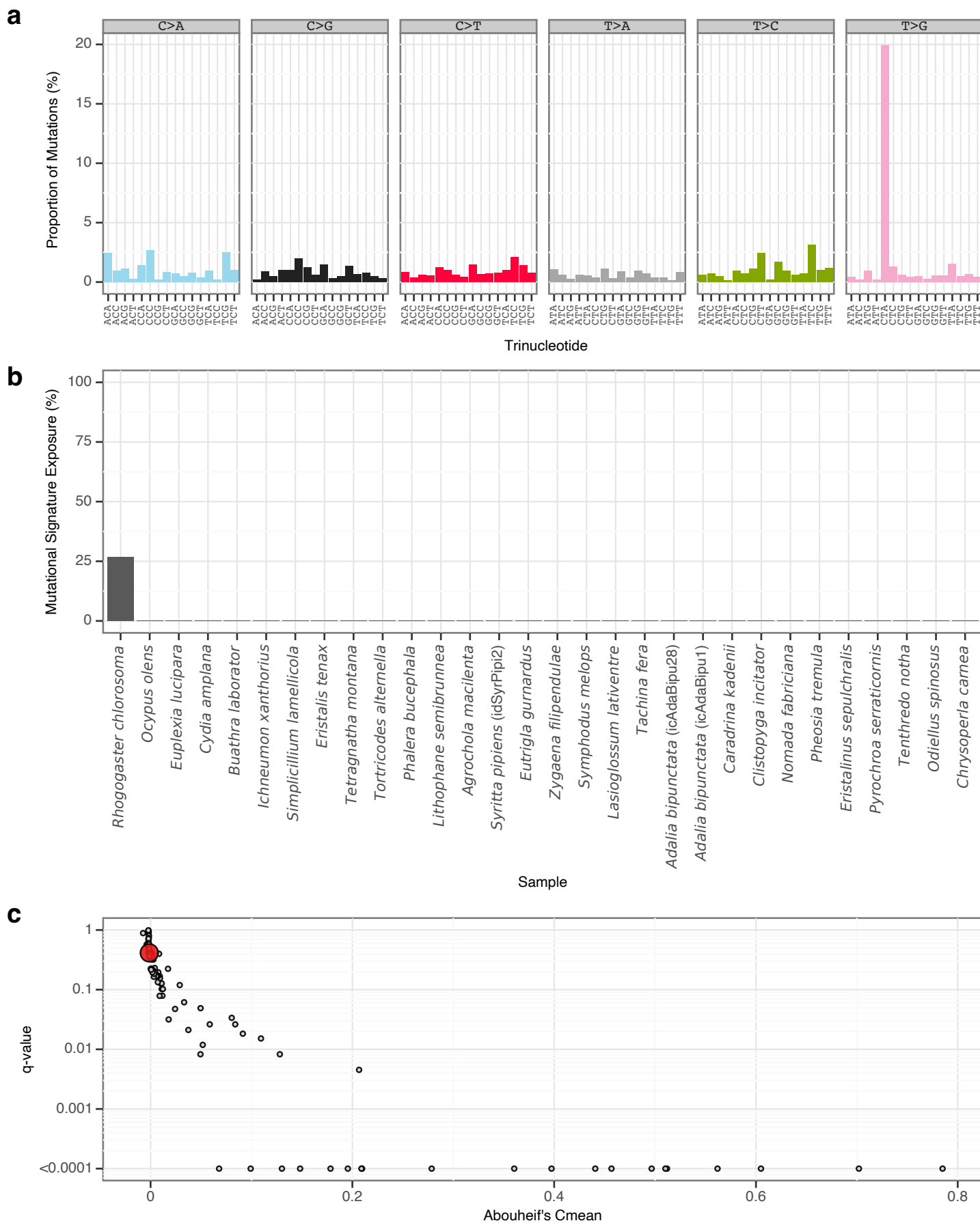


Supplementary Fig. 97 | sToL94 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

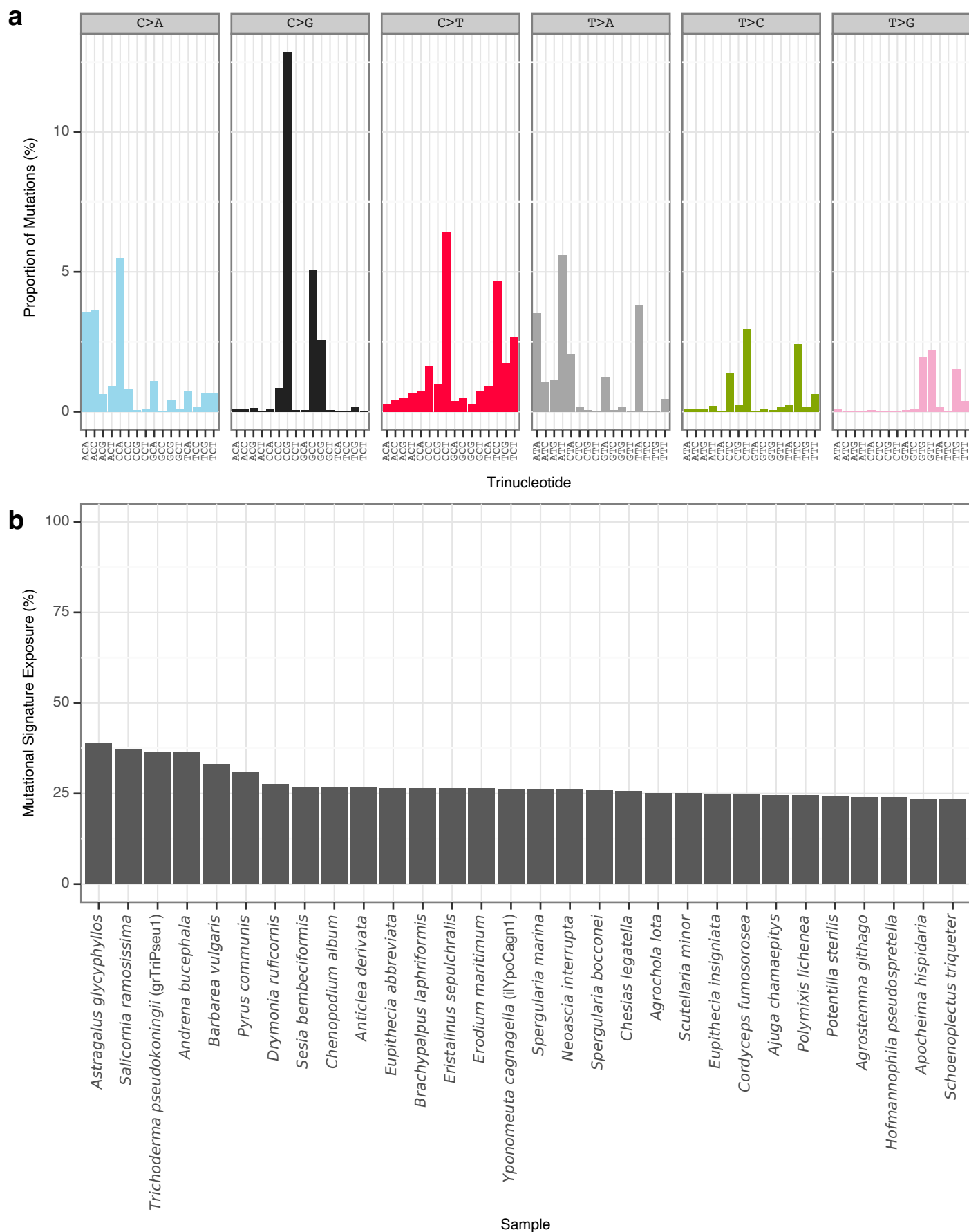


Supplementary Fig. 98 | sToL95 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

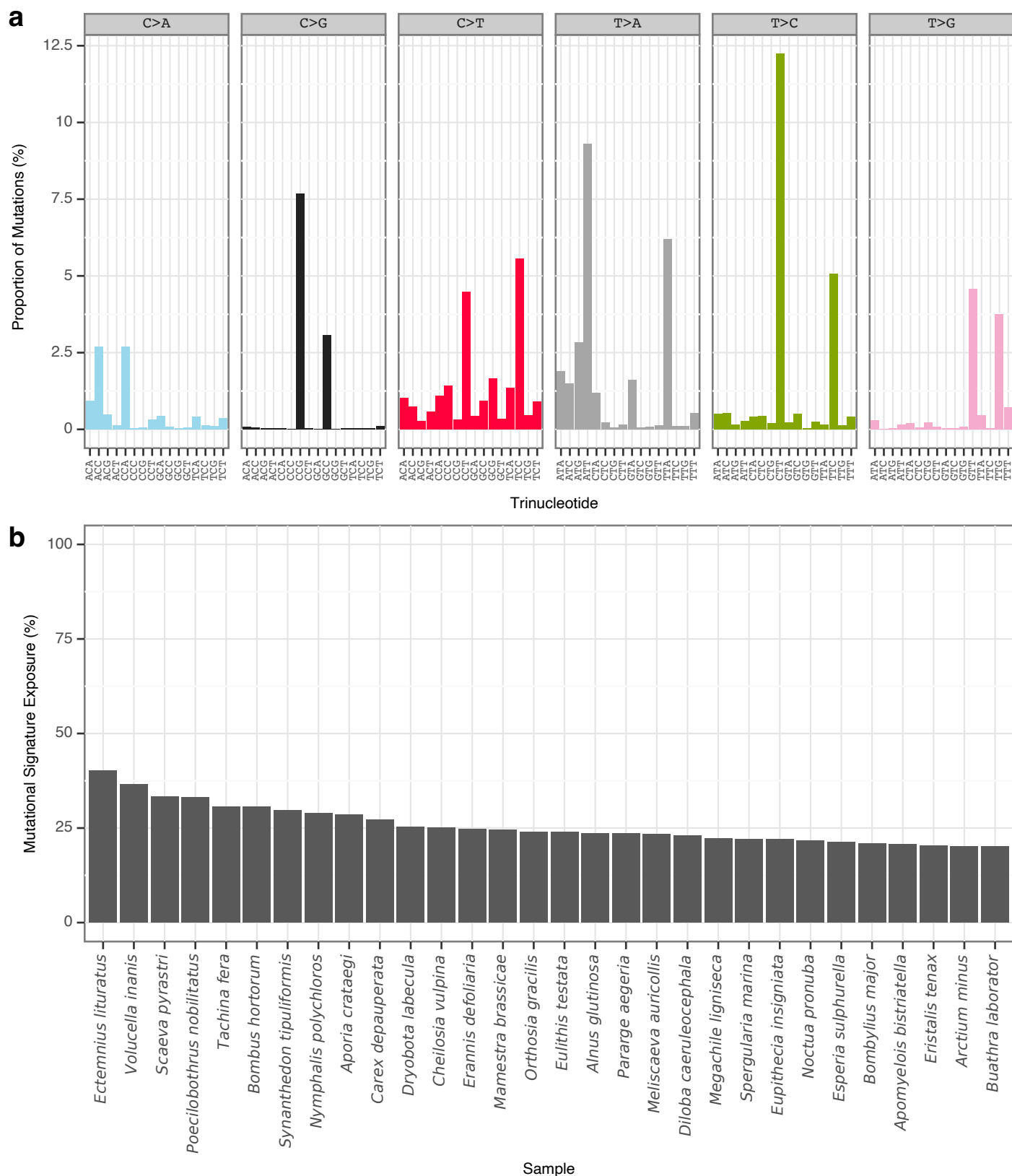
c, Phylogenetic signal of the mutational signature.



Supplementary Fig. 99 | rToL1 mutational signature.

a, Mutational signature spectrum.

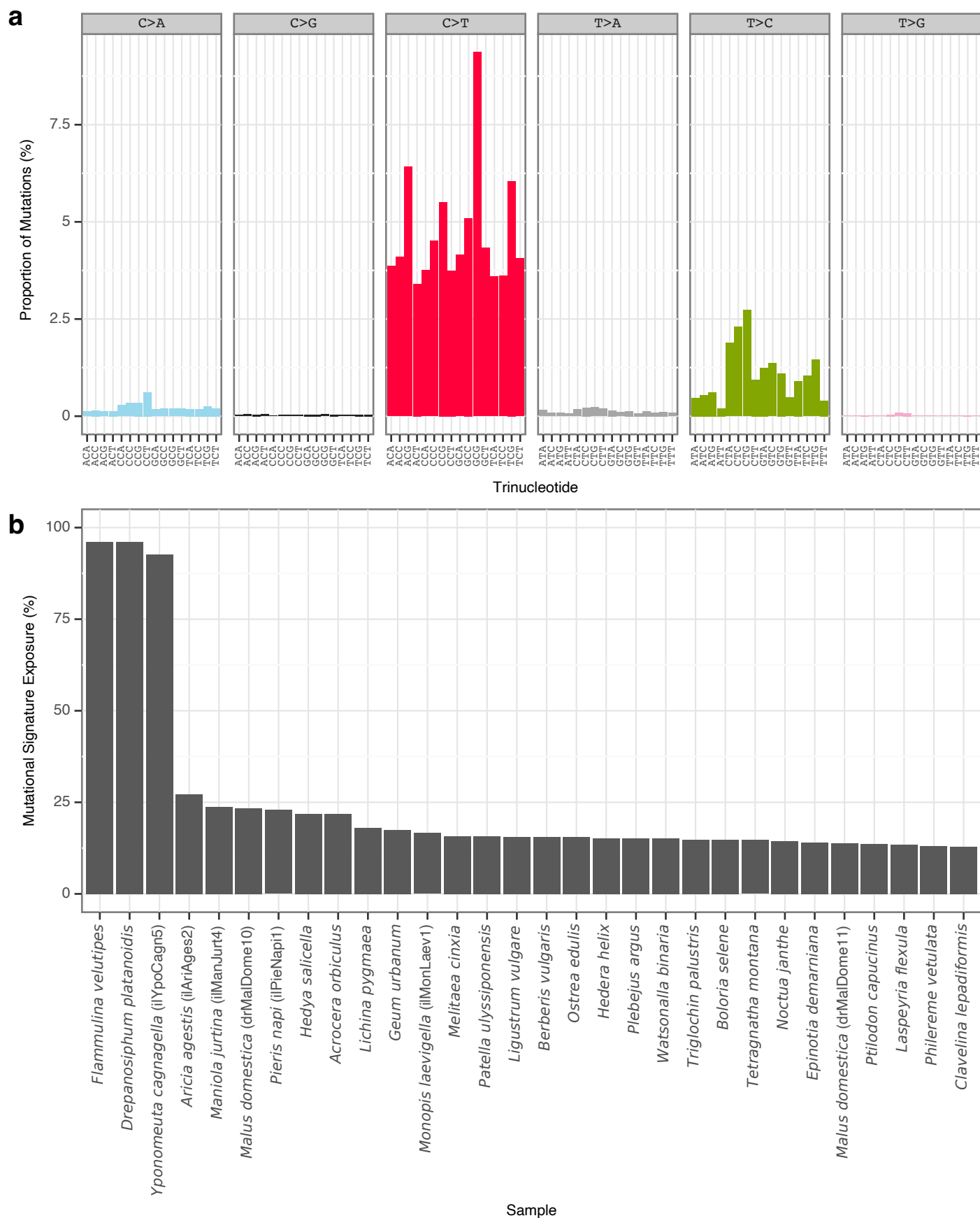
b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.



Supplementary Fig. 100 | rToL2 mutational signature.

a, Mutational signature spectrum.

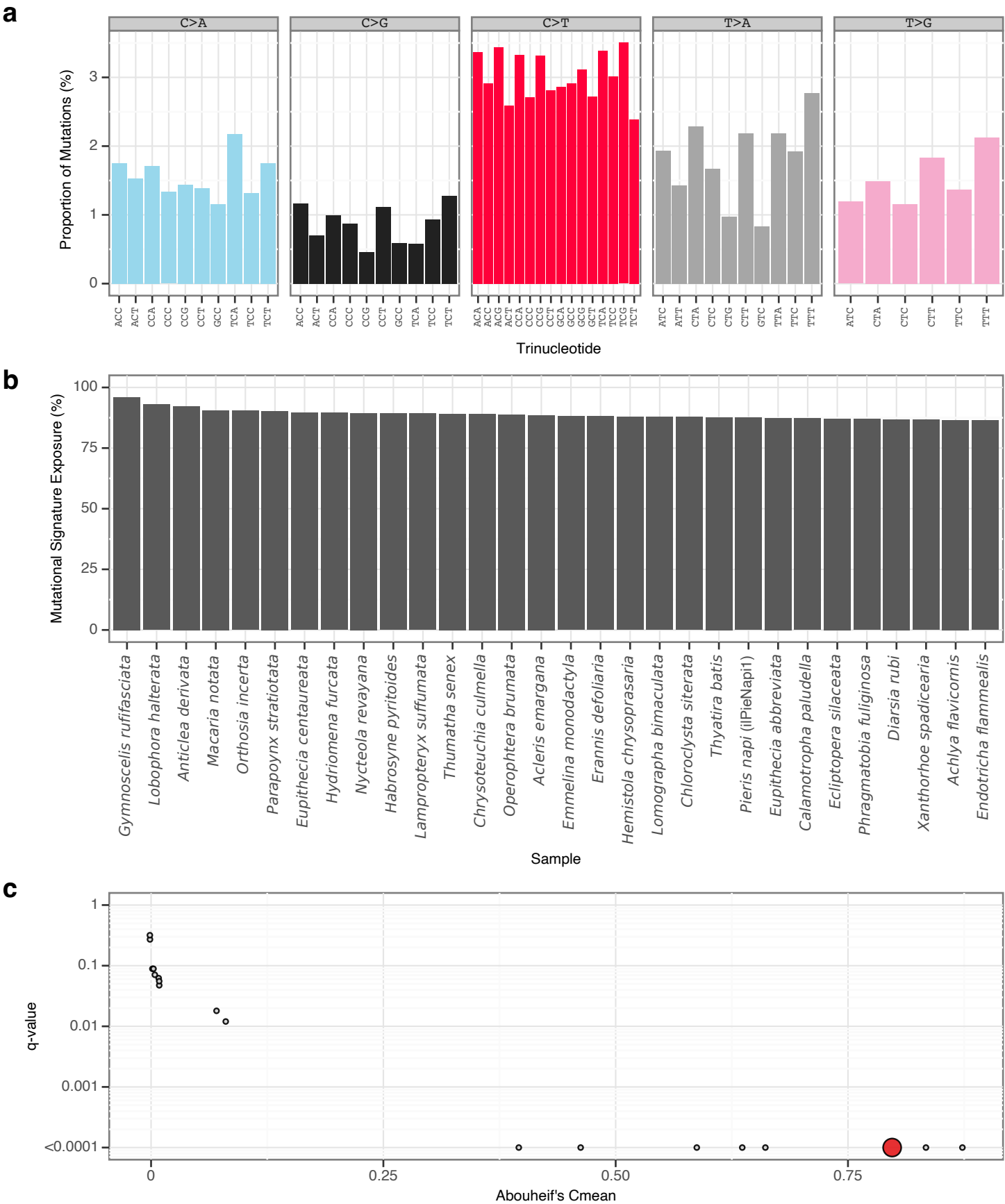
b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.



Supplementary Fig. 101 | rToL3 mutational signature.

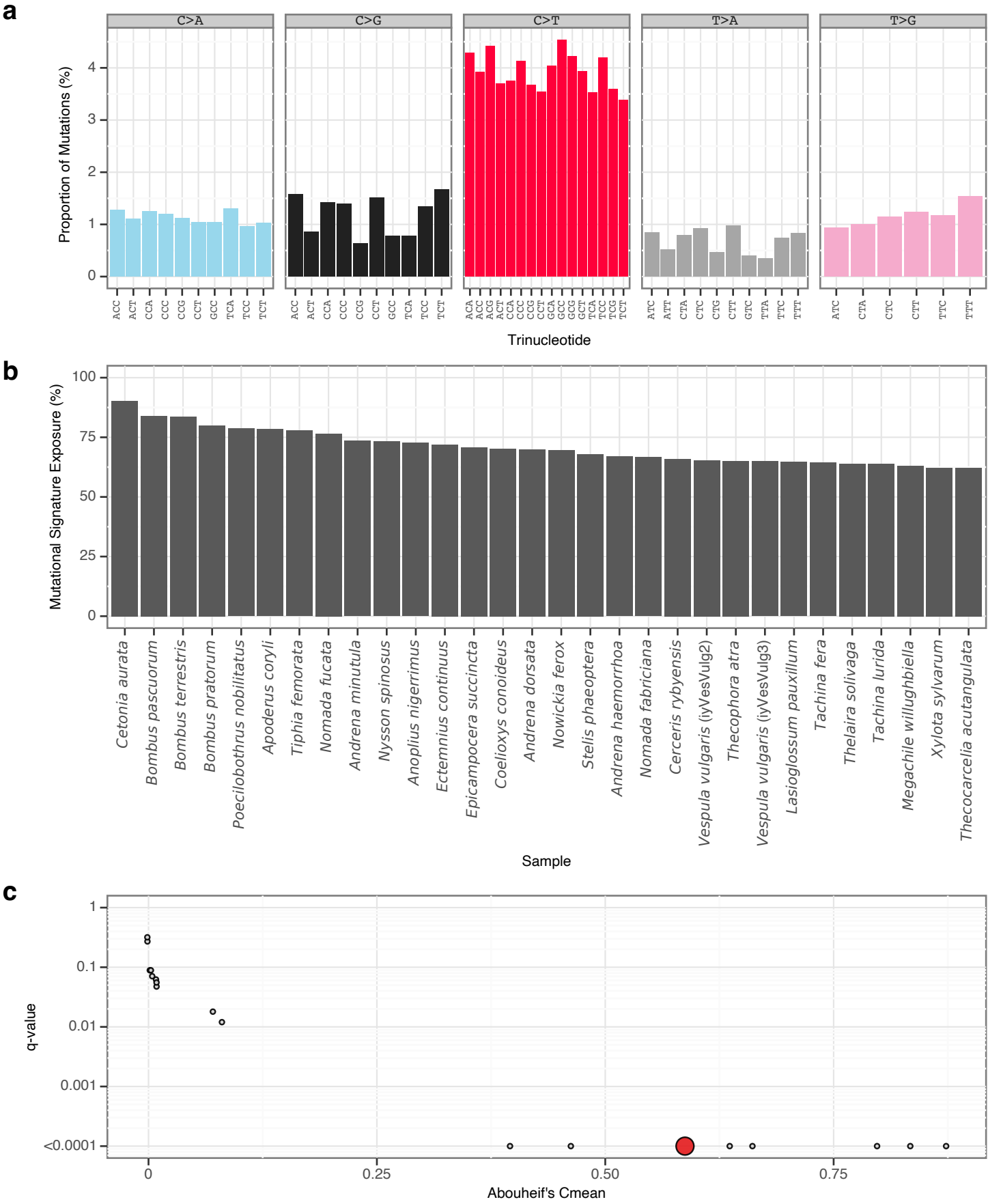
a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.



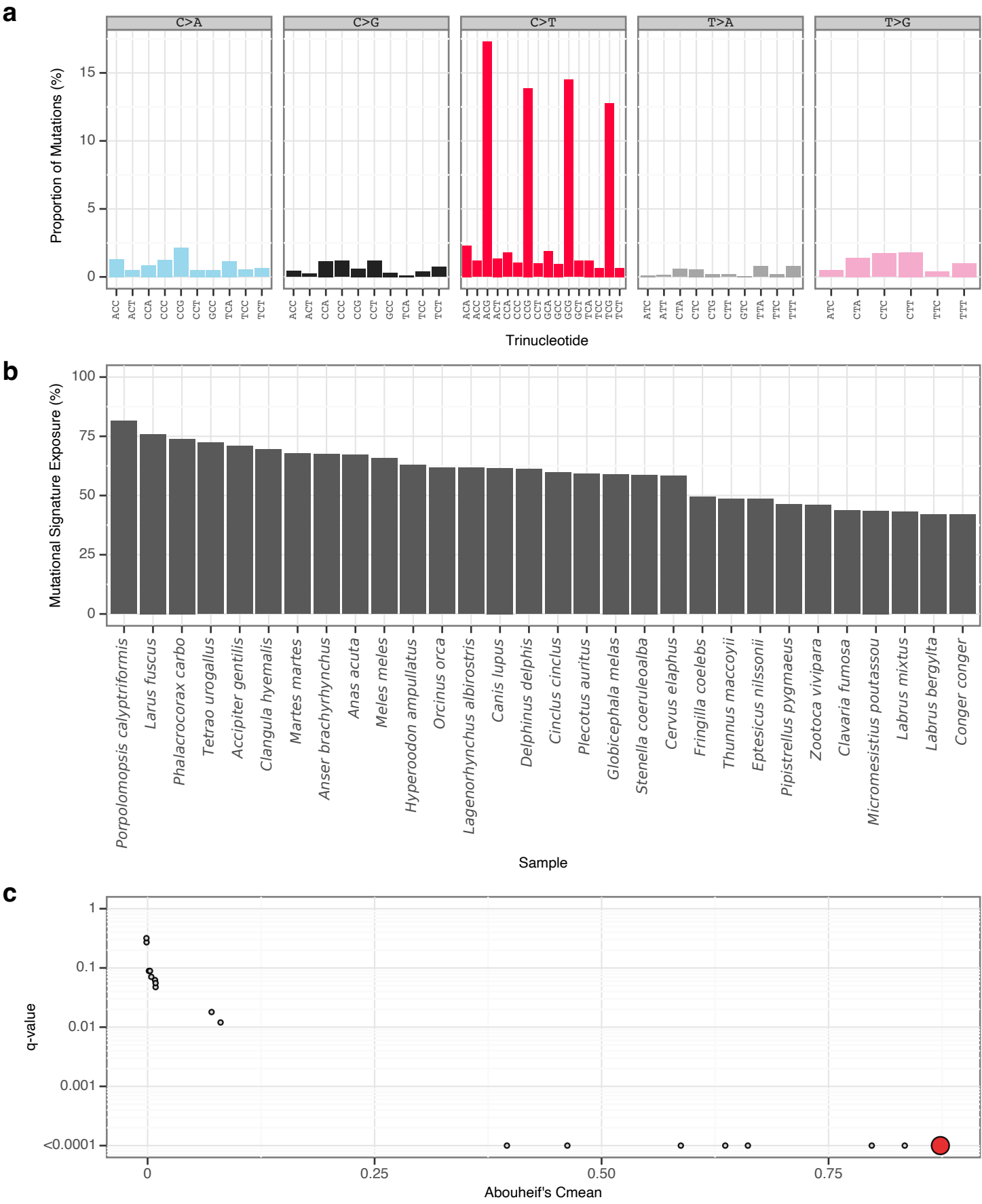
Supplementary Fig. 102 | gToL1 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.



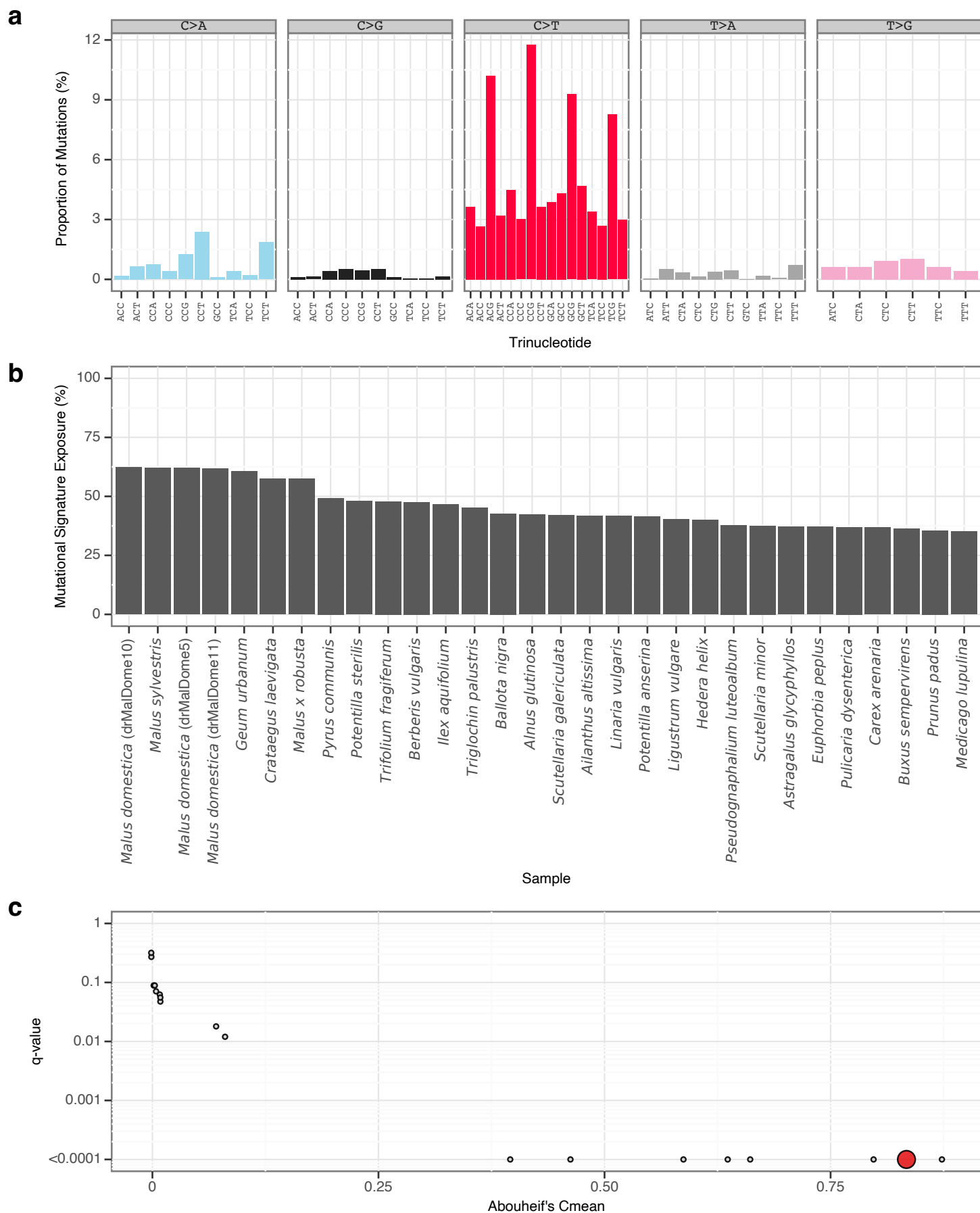
Supplementary Fig. 103 | gToL2 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.



Supplementary Fig. 104 | gToL3 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.

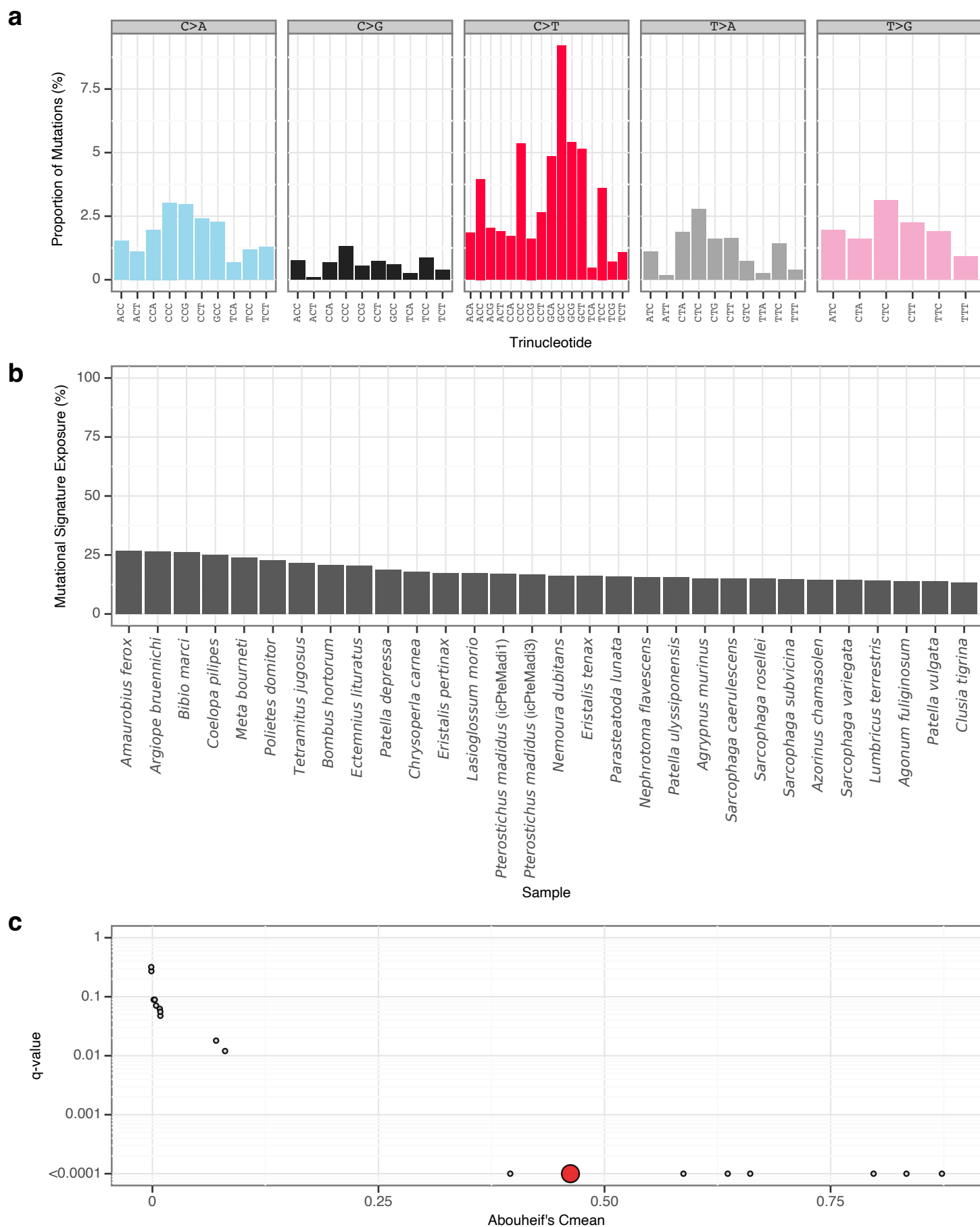


Supplementary Fig. 105 | gToL4 mutational signature.

a, Mutational signature spectrum.

b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

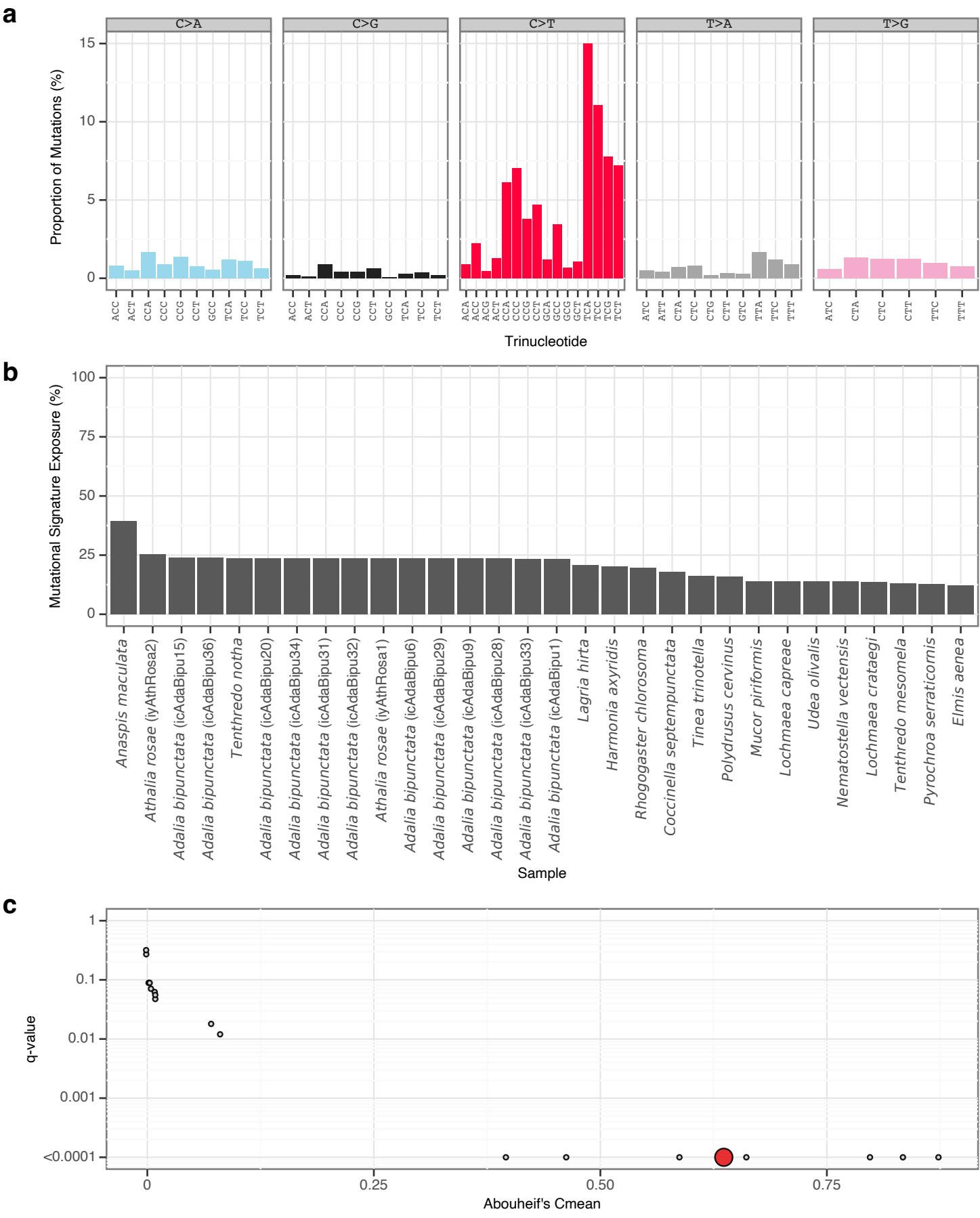


Supplementary Fig. 106 | gToL5 mutational signature.

a, Mutational signature spectrum.

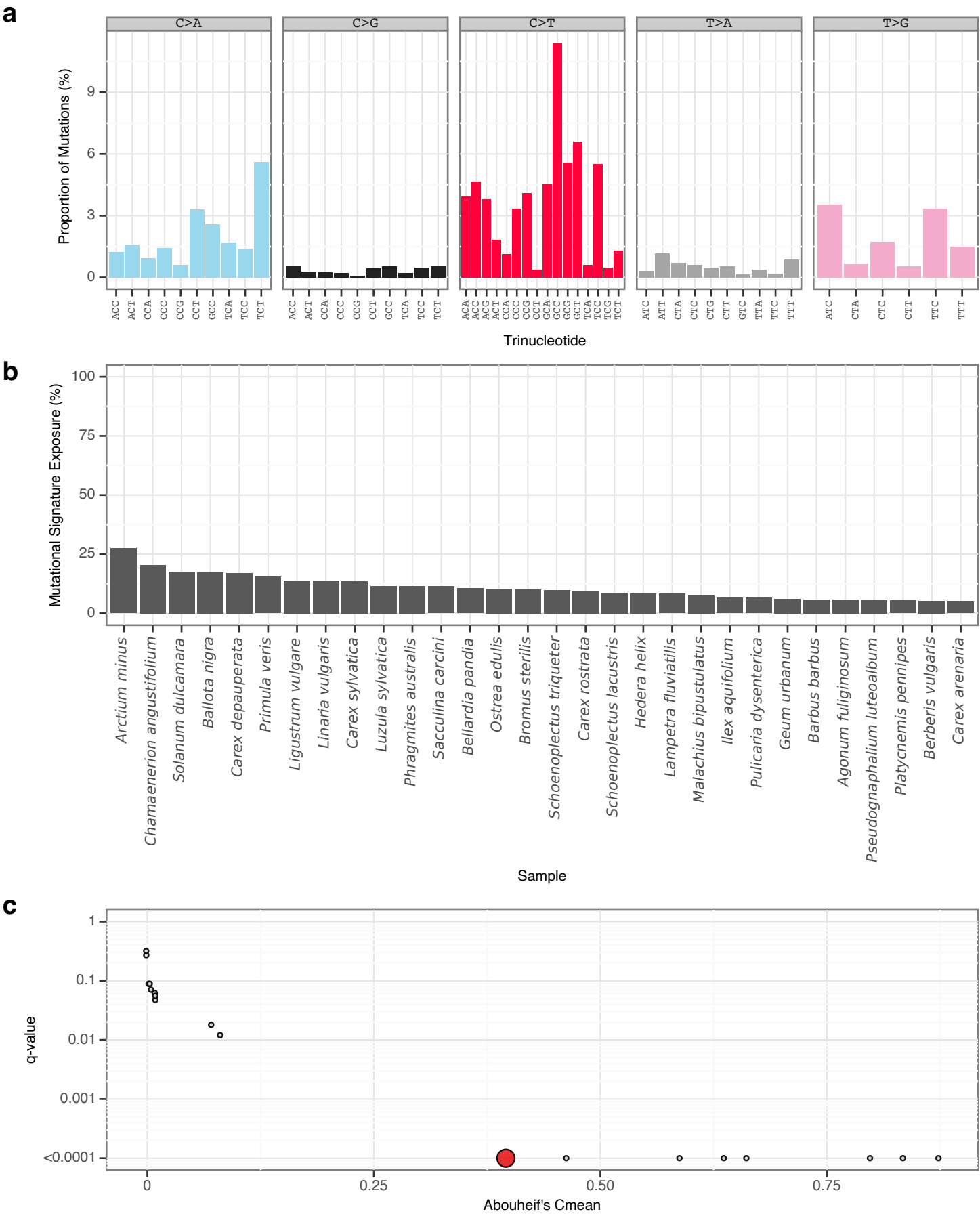
b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.



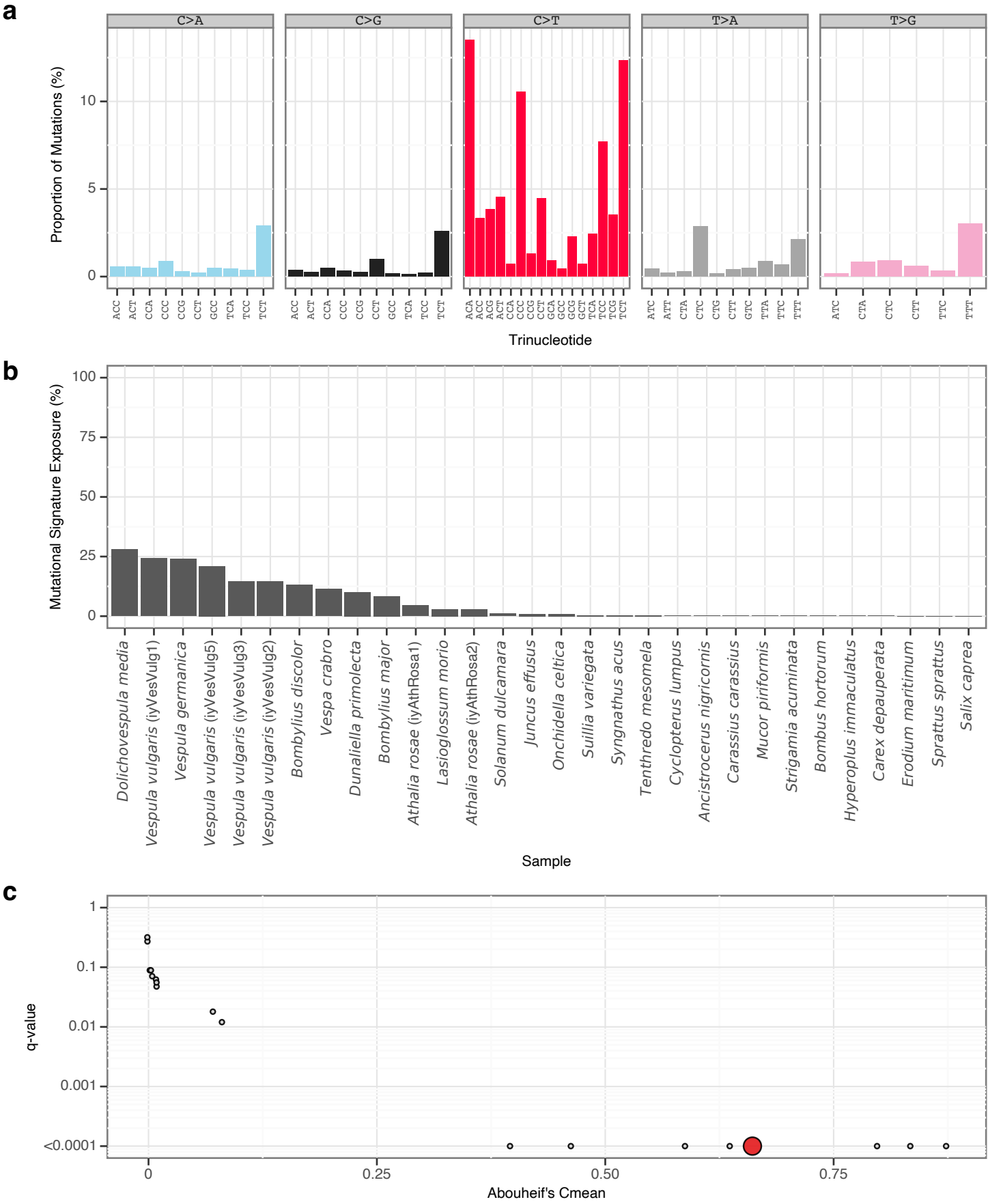
Supplementary Fig. 107 | gToL6 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.



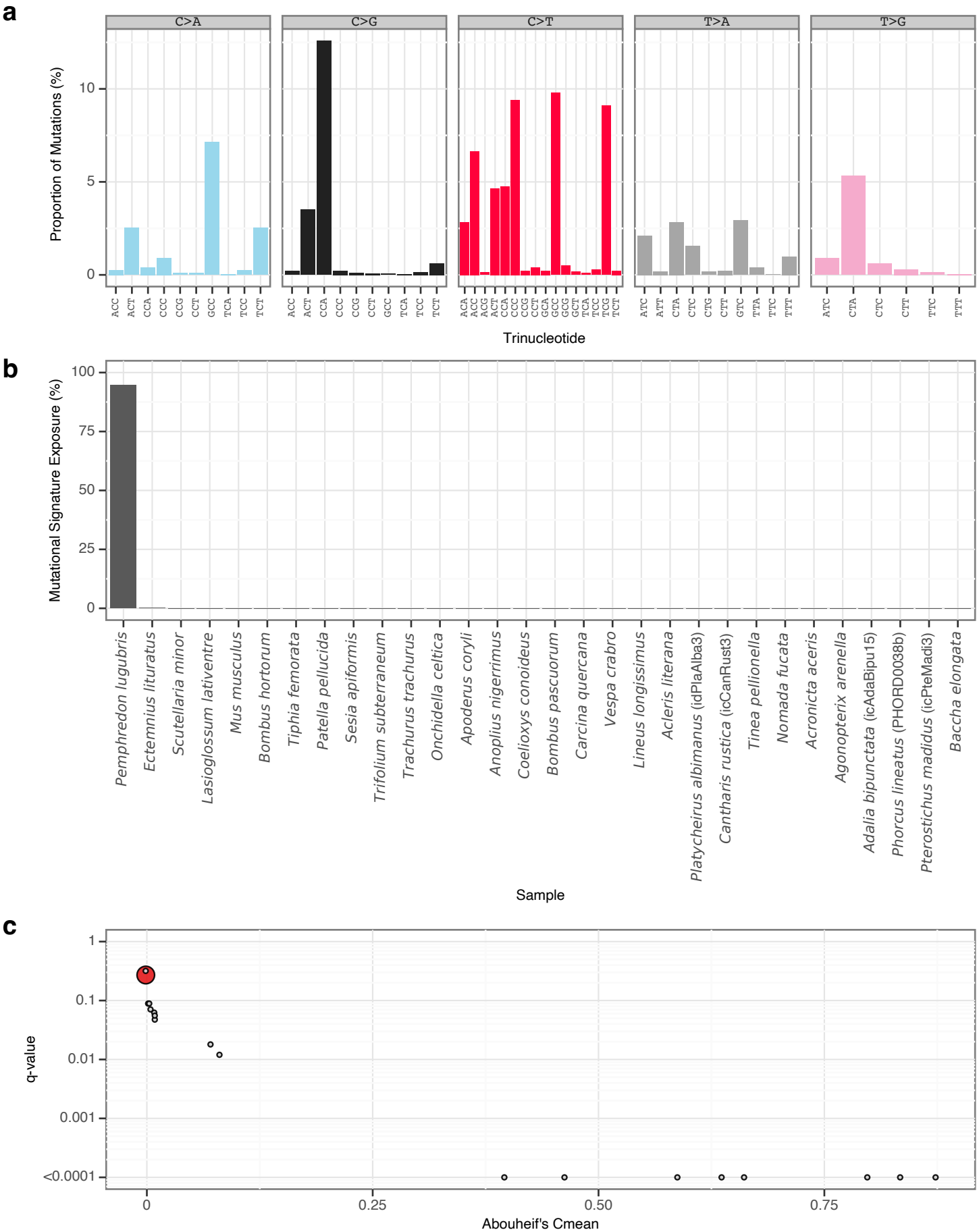
Supplementary Fig. 108 | gToL7 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.



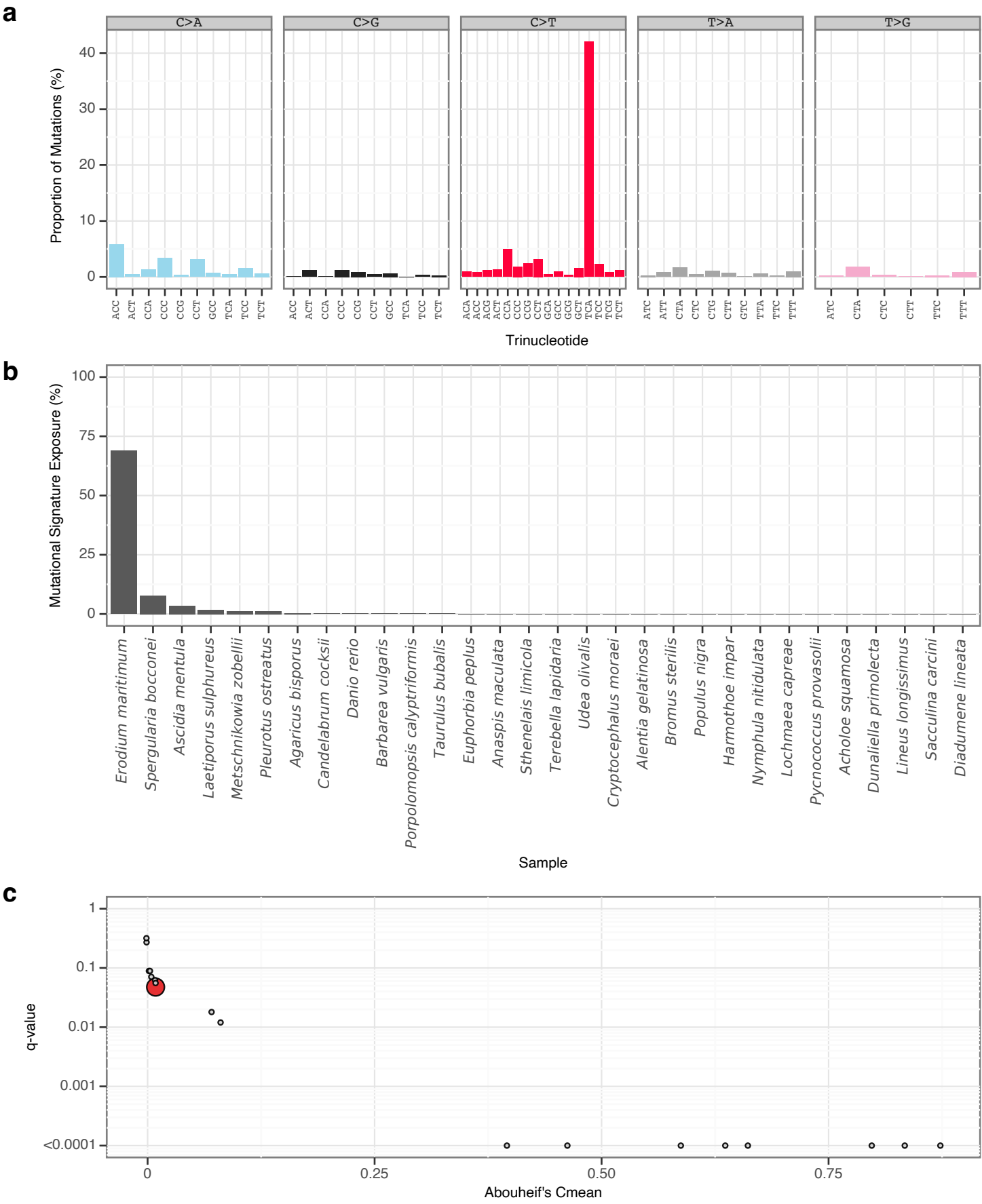
Supplementary Fig. 109 | gToL8 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.

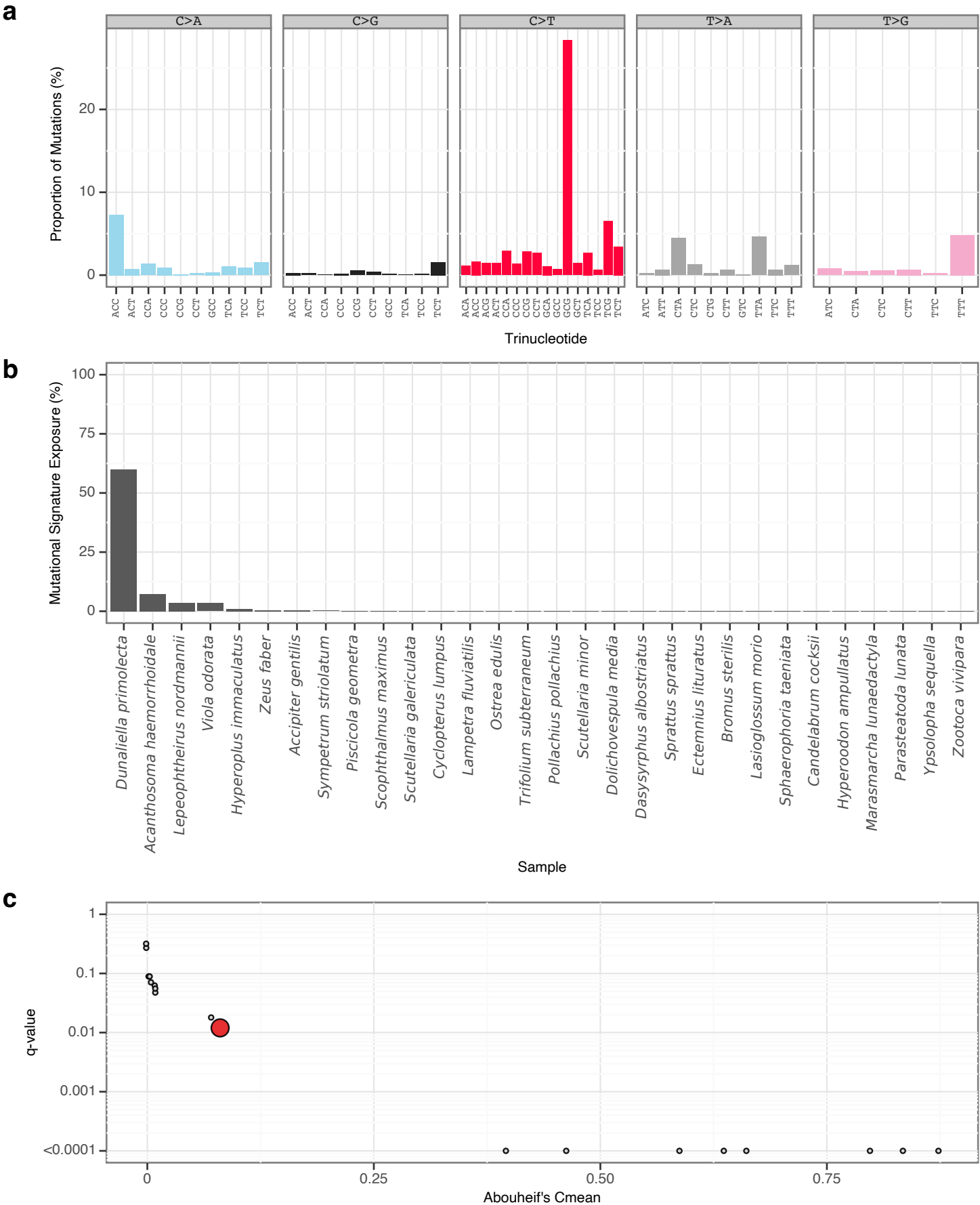


Supplementary Fig. 110 | gToL9 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.

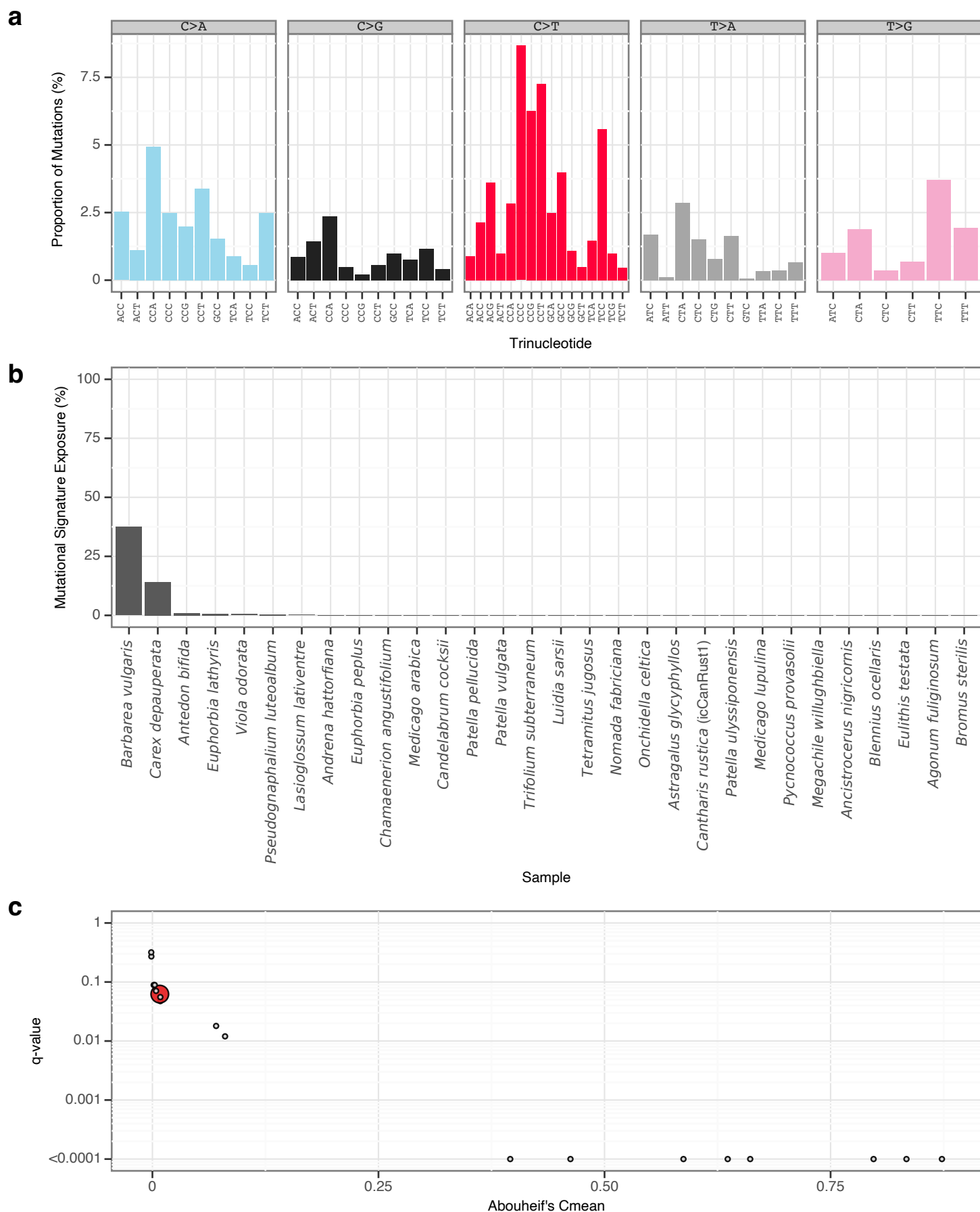


Supplementary Fig. 111 | gToL10 mutational signature.
a, Mutational signature spectrum.
b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
c, Phylogenetic signal of the mutational signature.



Supplementary Fig. 112 | gToL11 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.

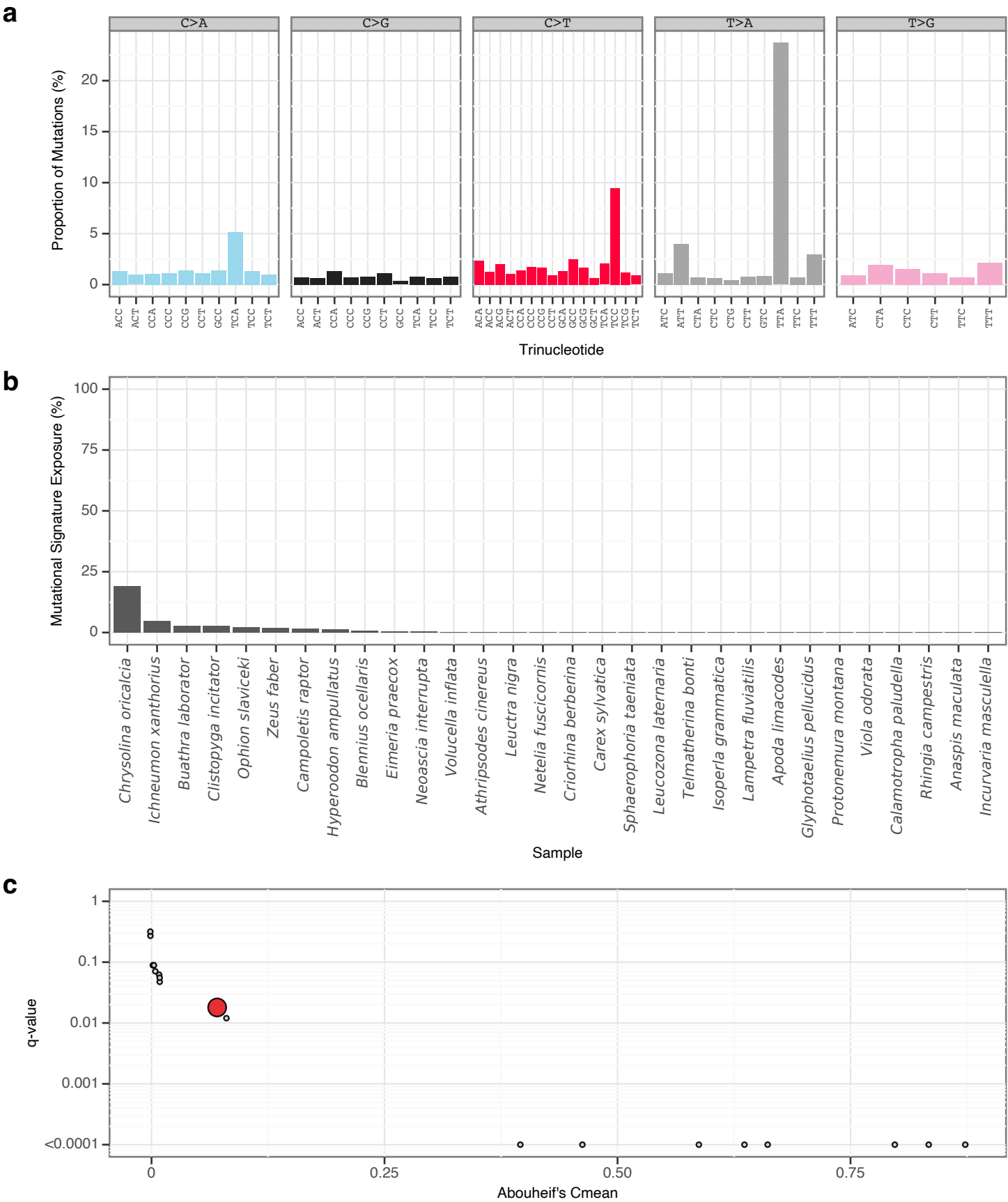


Supplementary Fig. 113 | gToL12 mutational signature.

a, Mutational signature spectrum.

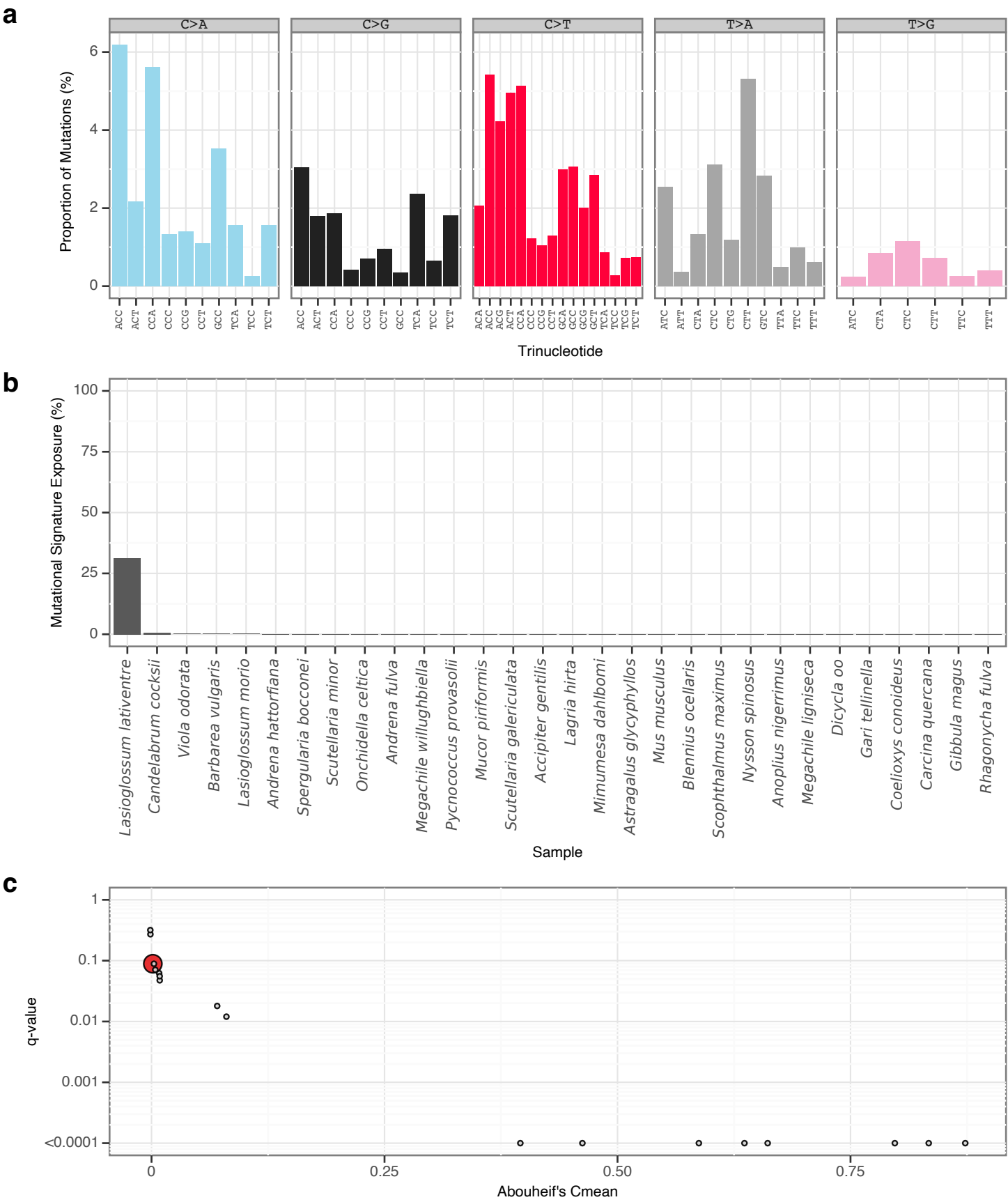
b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.

c, Phylogenetic signal of the mutational signature.

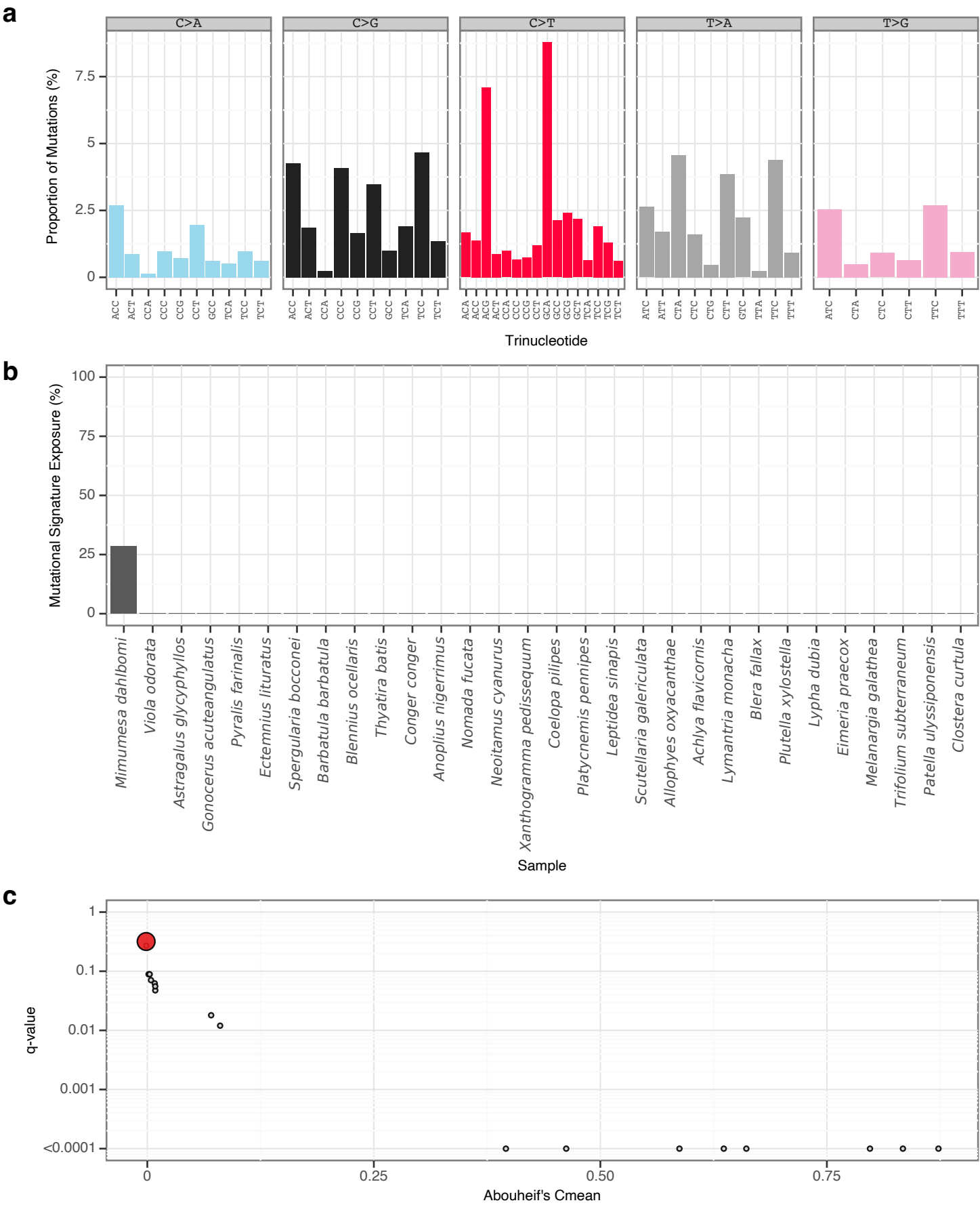


Supplementary Fig. 114 | gToL13 mutational signature.

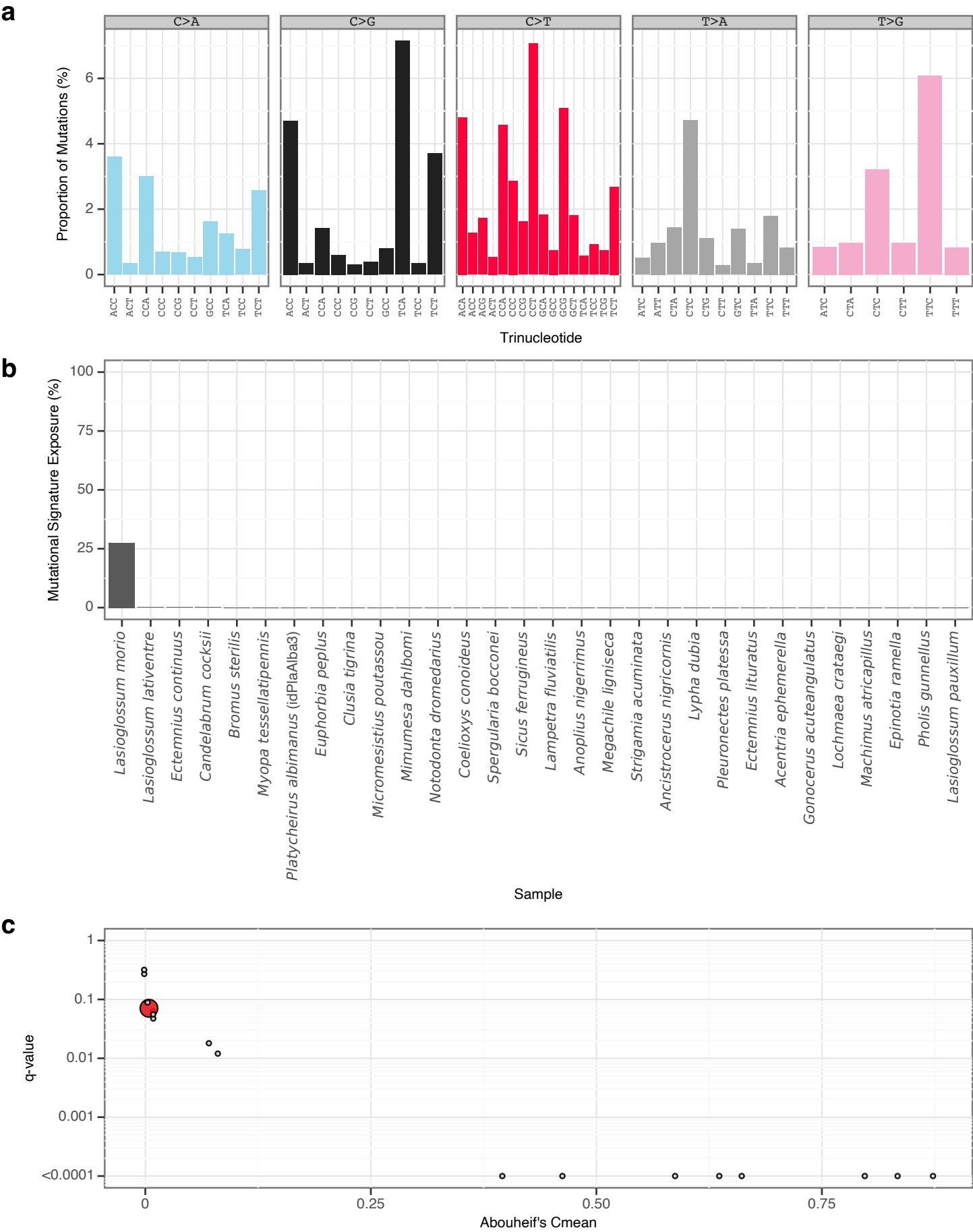
- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.



Supplementary Fig. 115 | gToL14 mutational signature.
a, Mutational signature spectrum.
b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
c, Phylogenetic signal of the mutational signature.

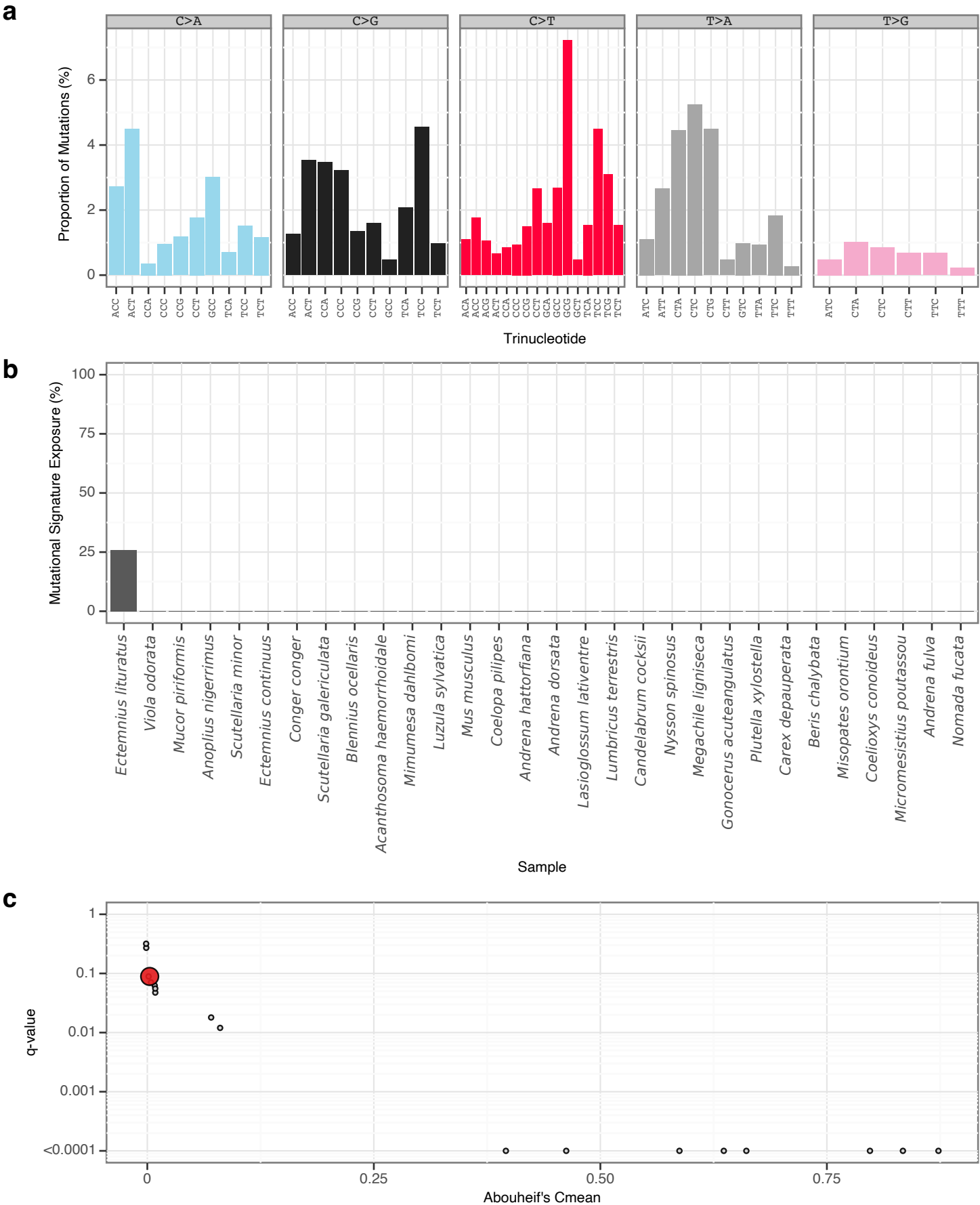


Supplementary Fig. 116 | gToL15 mutational signature.
a, Mutational signature spectrum.
b, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
c, Phylogenetic signal of the mutational signature.



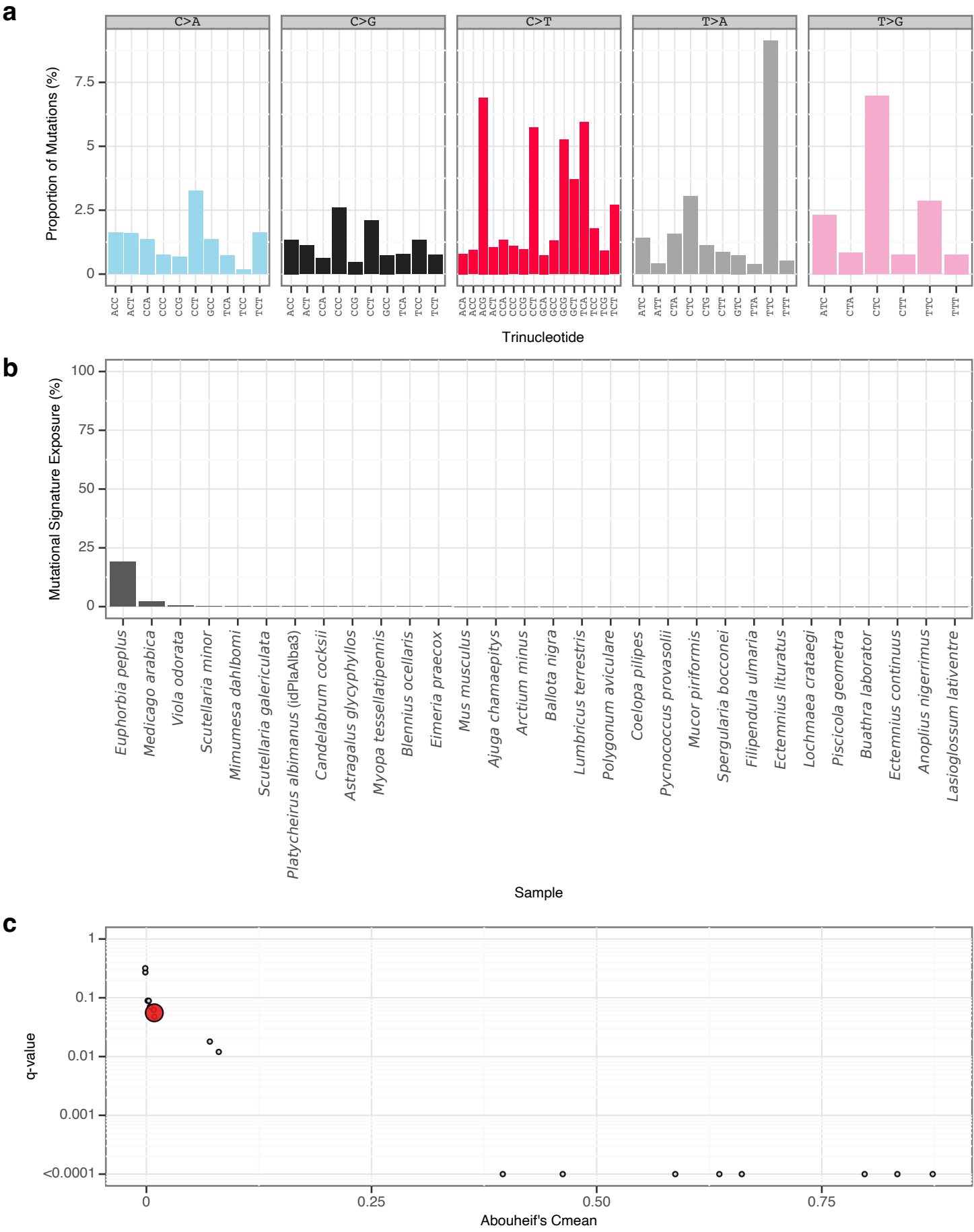
Supplementary Fig. 117 | gToL16 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.



Supplementary Fig. 118 | gToL17 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.



Supplementary Fig. 119 | gToL18 mutational signature.

- a**, Mutational signature spectrum.
- b**, Bar plot displaying the 30 samples that exhibit the greatest exposure to the mutational signature.
- c**, Phylogenetic signal of the mutational signature.