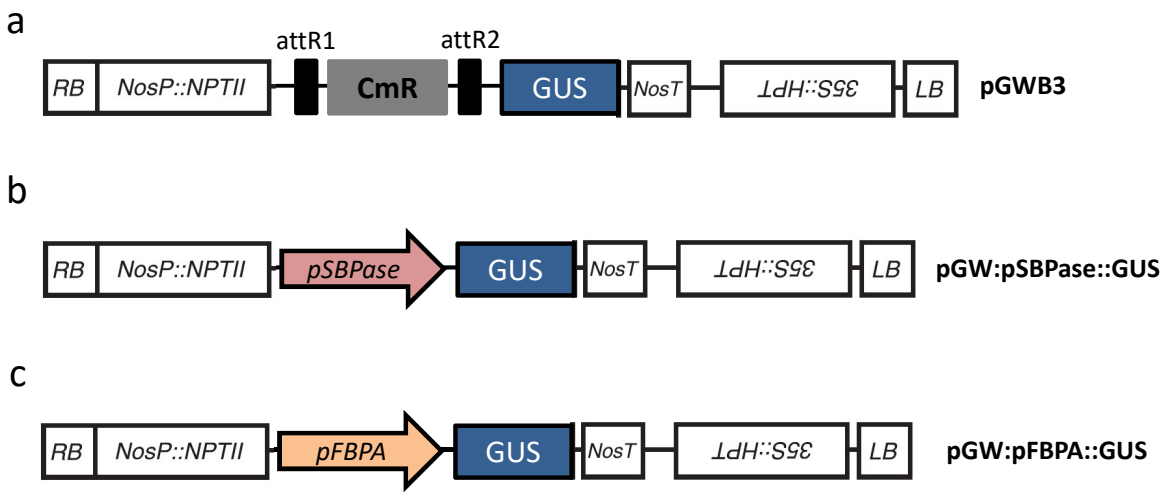
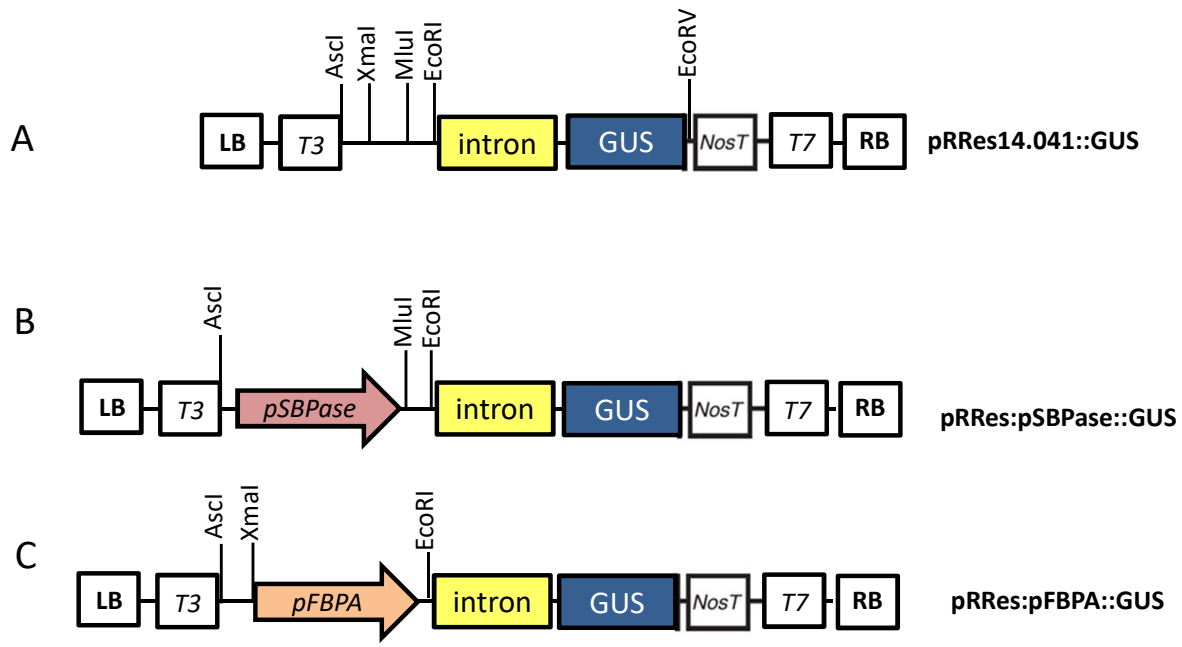
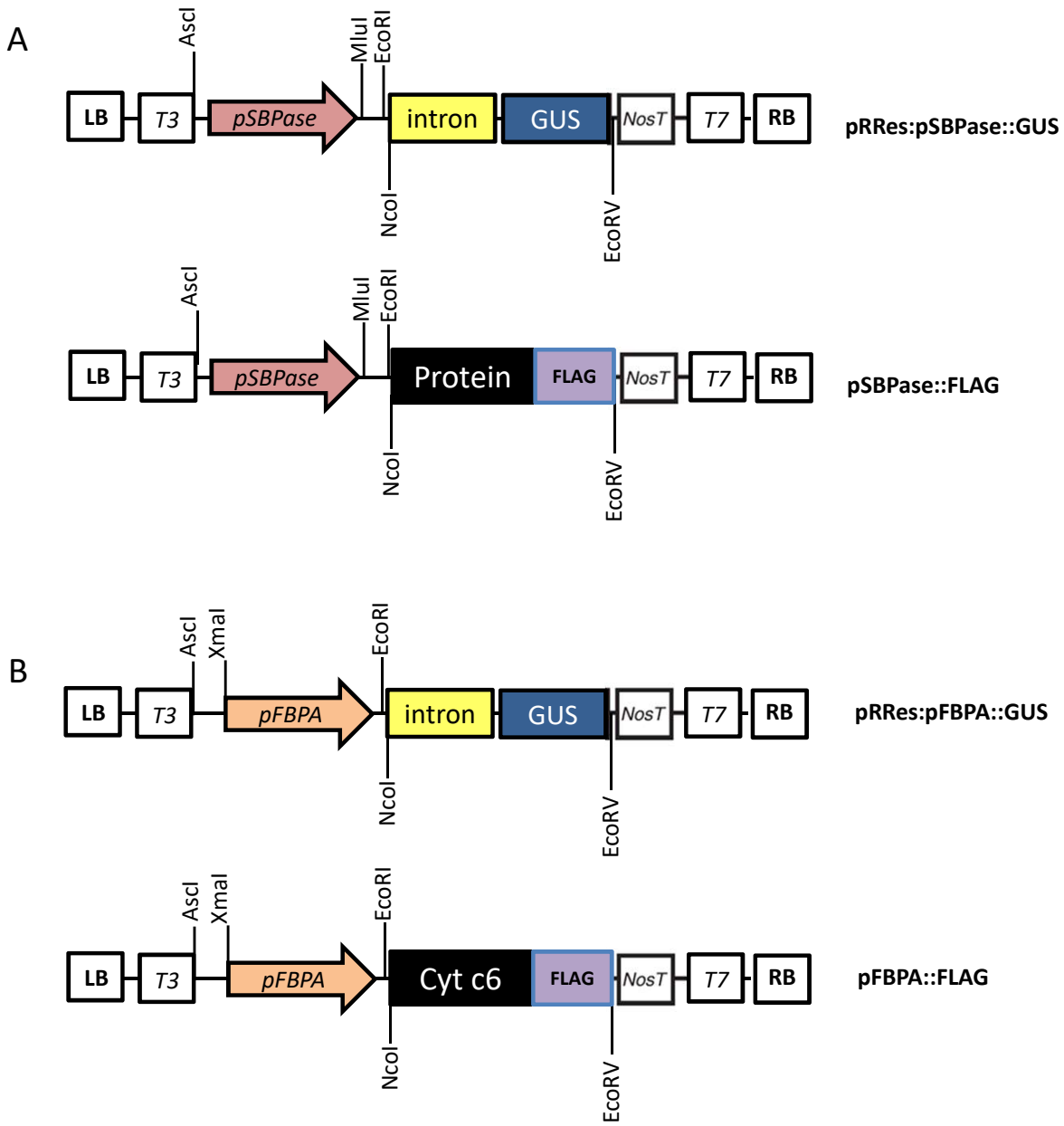


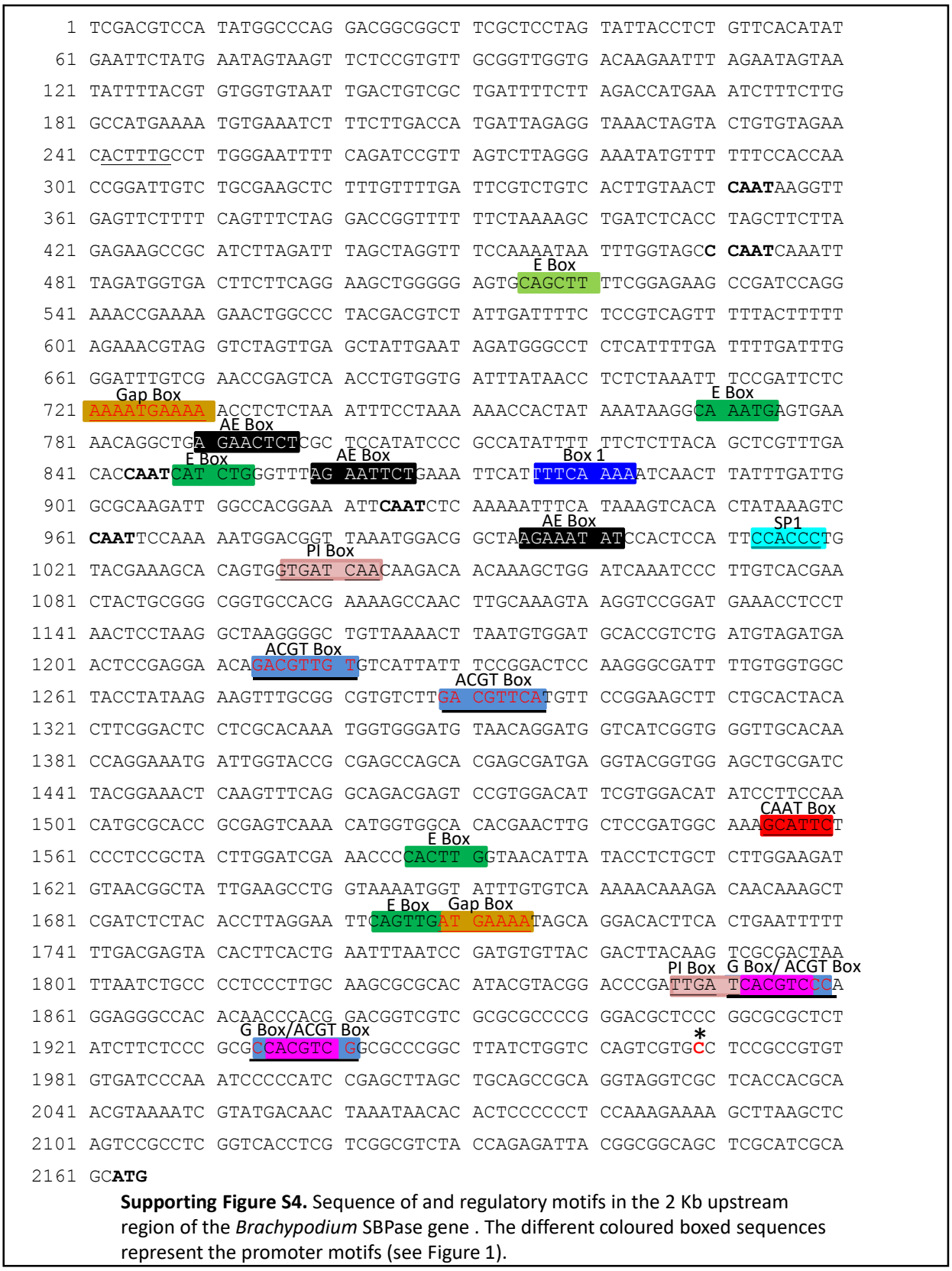
Supporting Figure S1. Schematic of transcriptional gene fusion constructs of the *Brachypodium* SBPase and FBPA promoters with the β-glucuronidase (GUS) reporter for expression analysis into *Nicotinia benthamiama* leaves. Genomic DNA of *Brachypodium* leaves was used to amplify the native promoters of *SBPase* and *FBPA.* They were cloned into the pENTR vector (Invitrogen). The resulting product was tranferred into the (a) pGWB3 vector by LR recombination to make (b) pGW:pSBPase::GUS and (c) pGW:pFBPA::GUS.



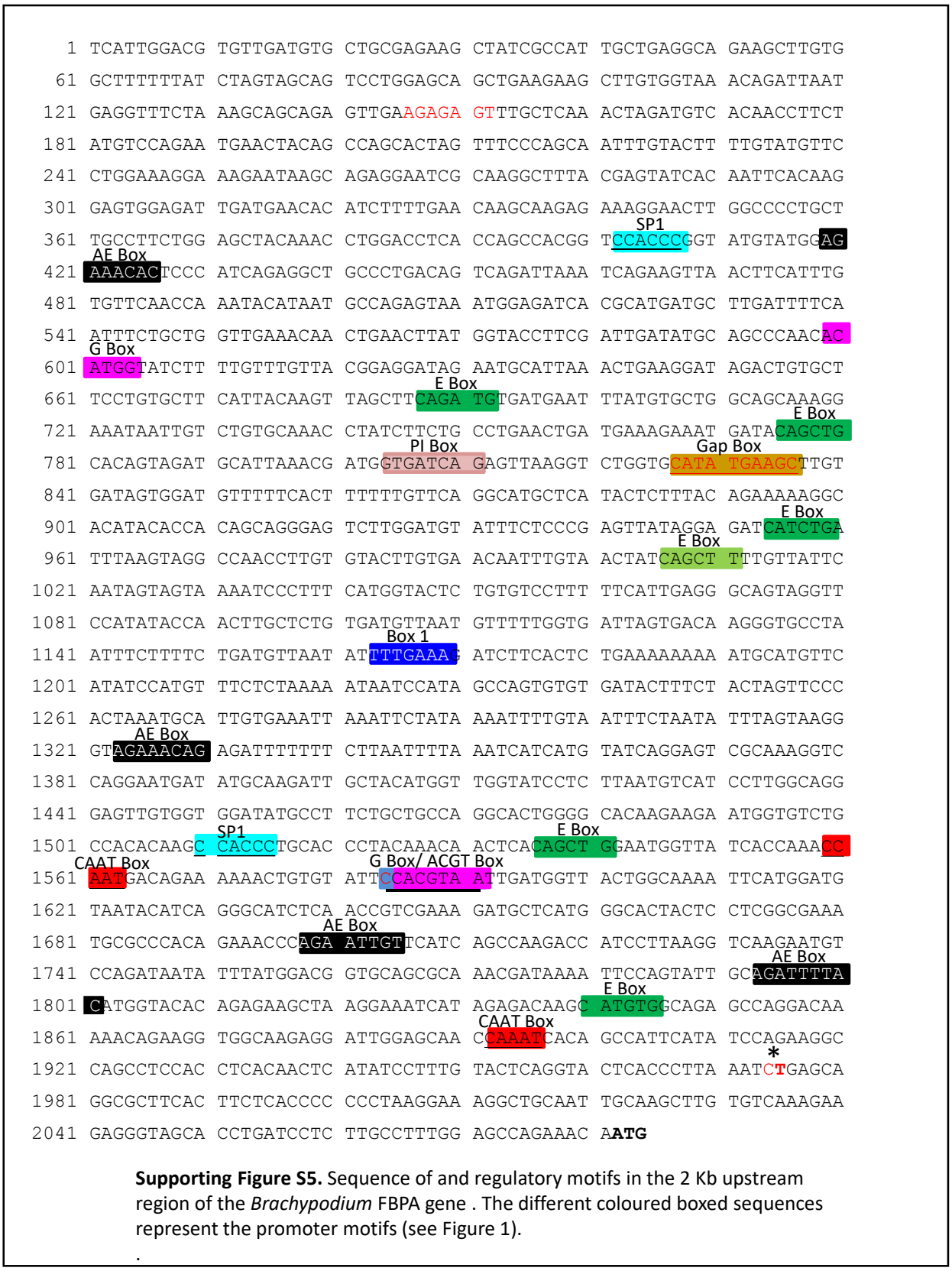
Supporting Figure S2. Schematic of transcriptional gene fusion constructs of the *Brachypodium* SBPase and FBPA promoters with the β-glucuronidase (GUS) reporter for expression analysis in wheat leaves. Genomic DNA of *Brachypodium* leaves was used to amplify the native promoters of SBPase and FBPA and they were cloned into the corresponding restriction sites (pSBPase was cloned into the MluI and AscI restriction sites and pFBPA was cloned into the EcoRI and XmaI restriction sites) of the (a) pRRes14.041 GUS vector to make (b) pRRes:pSBPase::GUS and (c) pRRES:pFBPA::GUS.



Supporting Figure S3. Schematic of transcriptional gene fusion construct of the *Brachypodium* SBPase and FBPA promoters and coding sequences fused to the cytochrome c_6-FLAG sequence for expression analysis in wheat leaves. The FLAG-tagged cytochrome c6-FLAG protein was cloned into the NcoI and EcoRV restriction sites of vector pRRES:pSBPase::GUS and pRRES:pFBPA::GUS, simultaneously removing the intron and GUS reporter to generate (a) pSneFLAG and (b) pFneFLAG respectively.



Supporting Figure S4. Sequence of and regulatory motifs in the 2 Kb upstream region of the *Brachypodium* SBPase gene . The different coloured boxed sequences represent the promoter motifs (see Figure 1).

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2041 GAGGGTAGCA CCTGATCCTC TTGCCTTTGG AGCCAGAAAC AATG
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Supporting Figure S5. Sequence of and regulatory motifs in the 2 Kb upstream region of the *Brachypodium* FBPA gene . The different coloured boxed sequences represent the promoter motifs (see Figure 1).

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