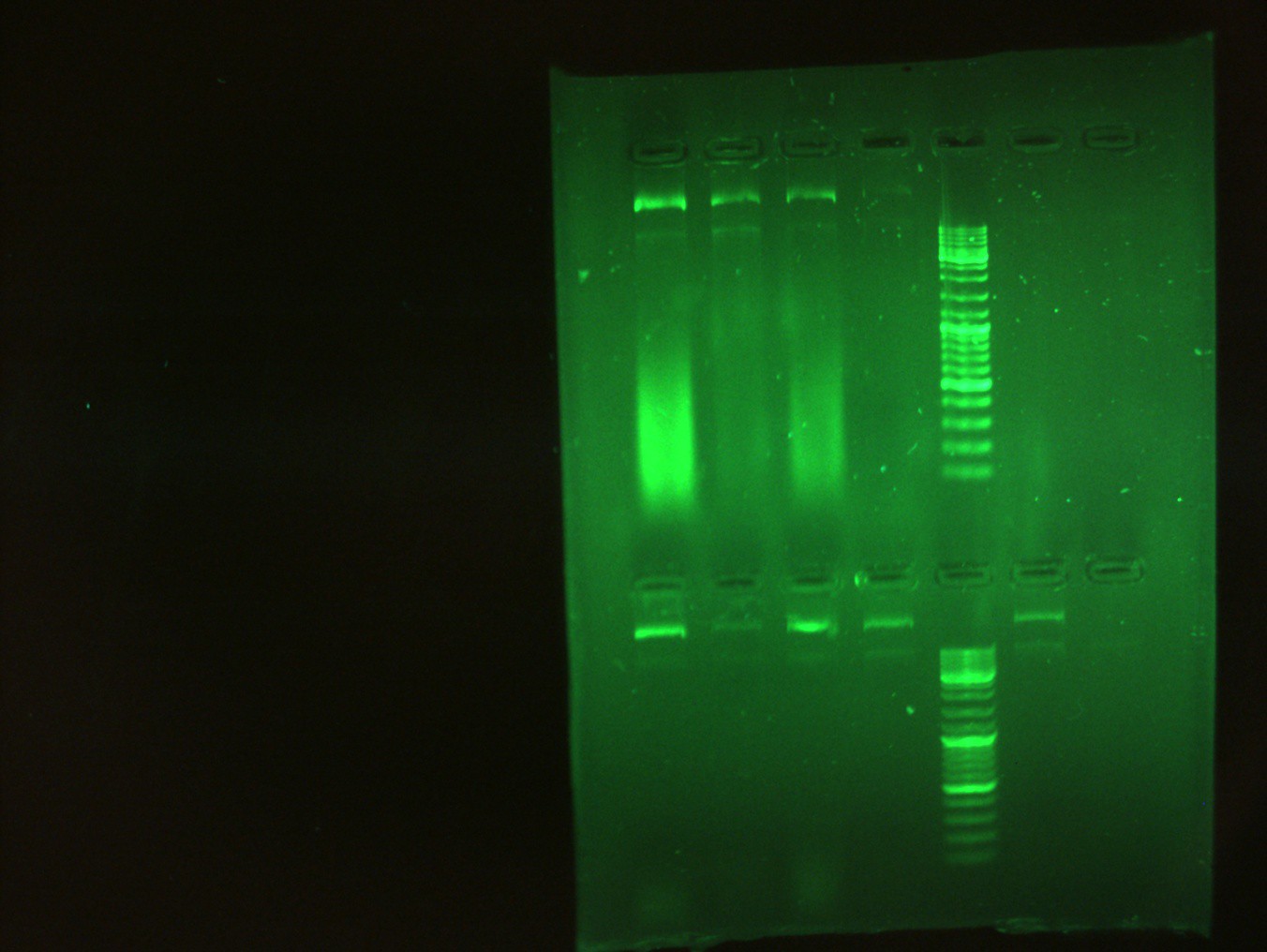
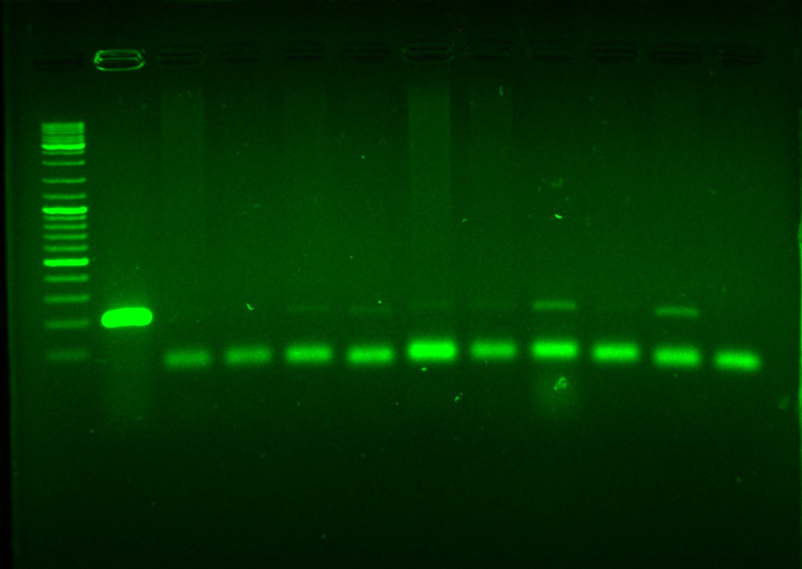


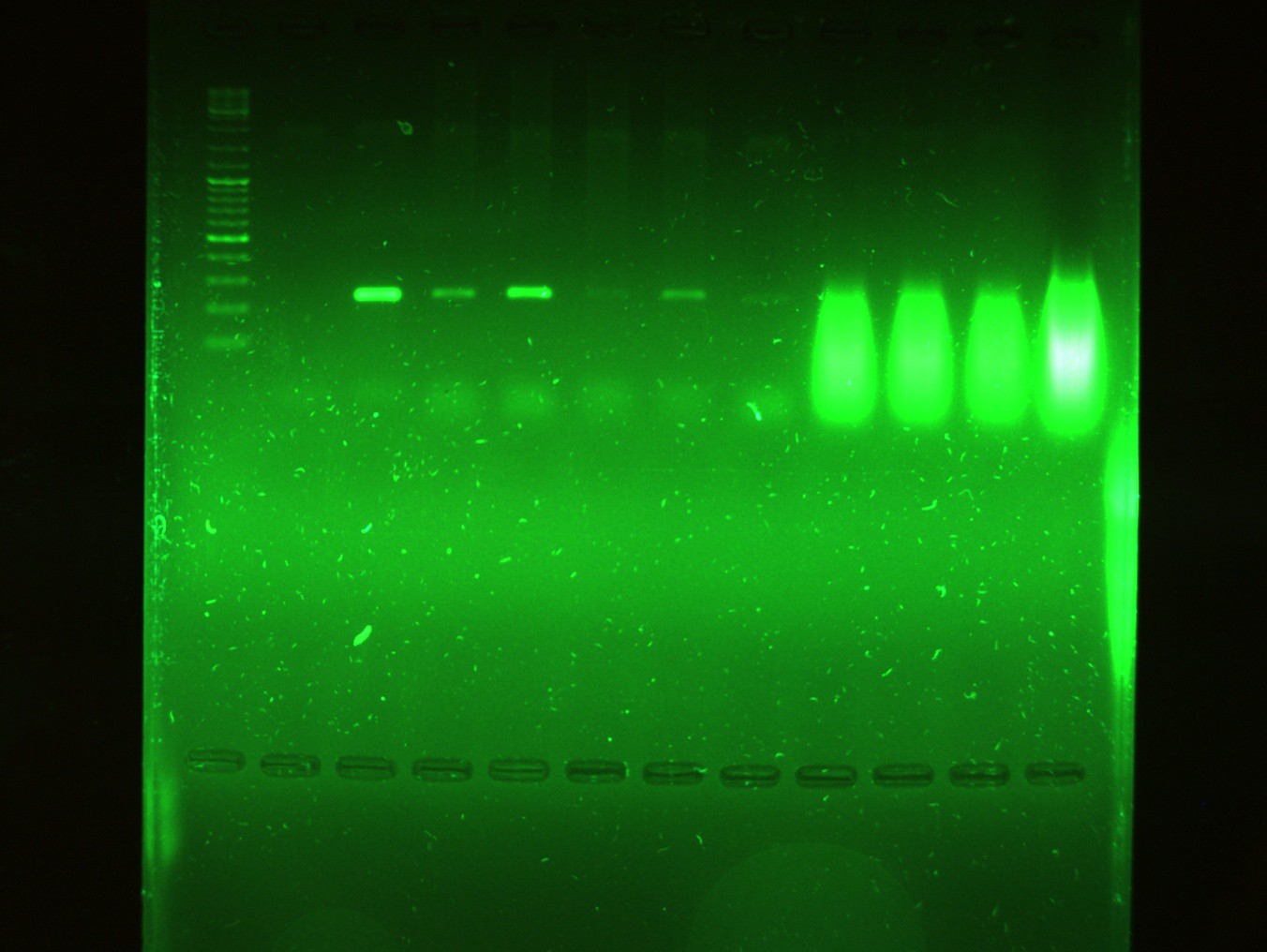
**Fig**; PCR product of the designed *hva1* inserted in PUC57. The primers were amplified approximately 1200pb. The experiment was conducted to confirm the insertion of the structure to the PUC57 vector and cloning. From Right; the 1000bp DNA ladder, the control reaction without the template, the control group of non-inserted PUC57 plasmids, and the structure inserted in PUC57.



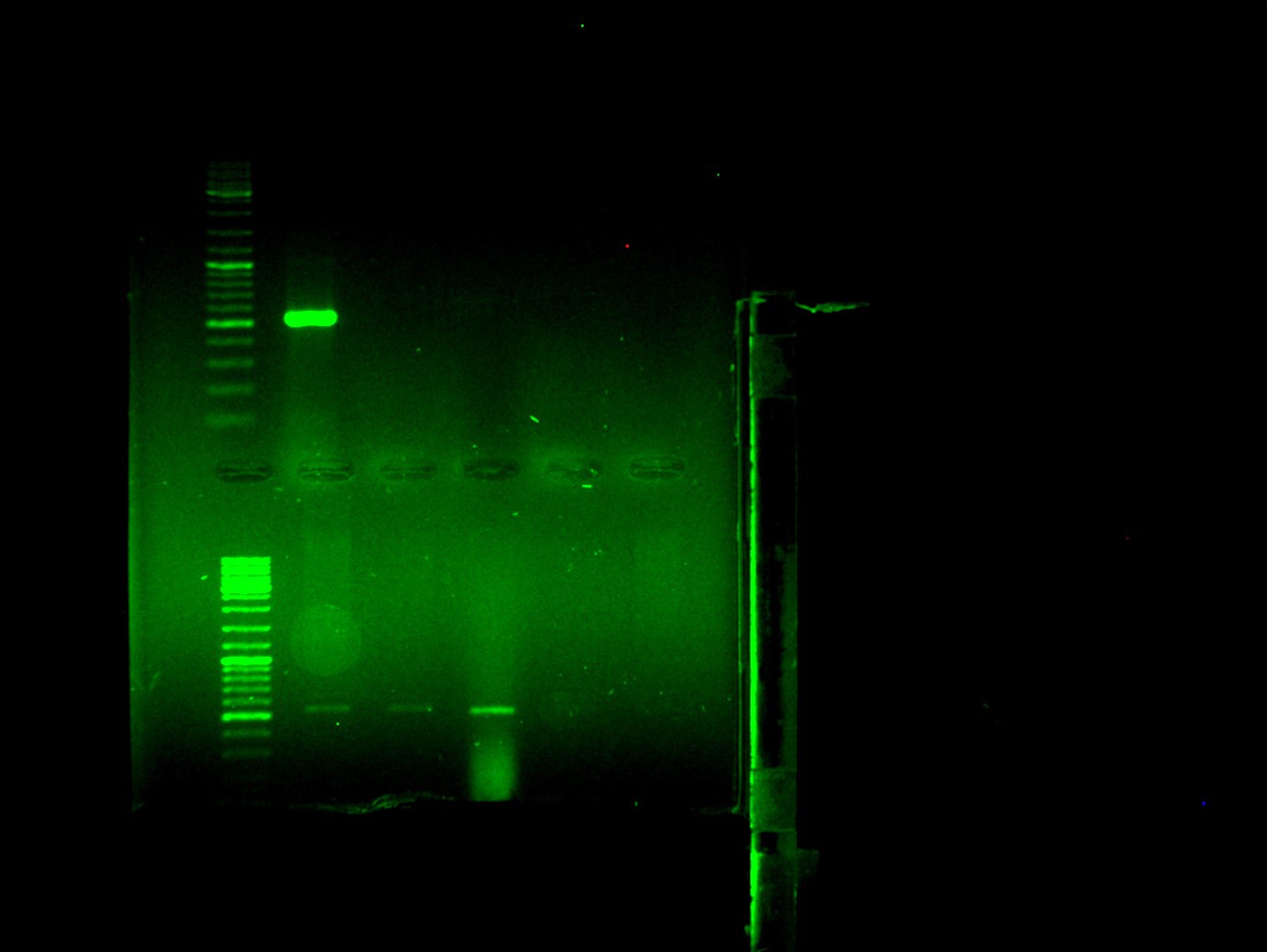
**Fig;** Extraction of cloned *hva1*-pBI121 vectors in *E. coli*. The *hva1*-pBI121 vector was cloned in *E. coli* after introducing it to the *Agrobacterium tumefaciens* C58. From right,1000bp DNA ladder, the control (E. coli with no hva1-pBI121 vector) and the binary vector *hva1*-pBI121 was cloned by *E. coli* in three replicates.



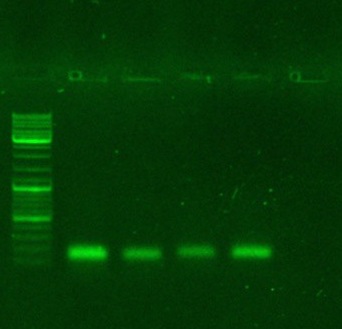
**Fig;** PCR analysis of DNA using the specific primers to detect the presence of the *hva1* in the transgenic potatoes transformed by *hva1*-pBI121 showing the correct expected band sizes. From left, 1kbp DNA ladder marker, the *hva1*-pBI121 positive control, transgenic plants from 10 independent samples and finally non-transformed control potato.



**Fig;** PCR analysis of DNA using the specific primers to detect the presence of *EPSPS* in the transgenic potatoes transformed by *hva1*-pBI121 showing the correct expected band sizes. From left, 1kbp DNA ladder marker, non-transformed control potato, the *EPSPS* positive control, transgenic plants from 5 independent samples.



**Fig;** PCR analysis of the treated samples after one month using the specific primers to detect the presence of the *virG* to examine the contamination of the transformed samples with Agrobacterium. From left, 1kbp DNA ladder marker, the positive control, transgenic plants from two independent samples and the negative control replicates.



**Fig;** the PCR reaction product of the *hva1* genes in PCR-positive potato lines with the gene specific primer. From left, 1 kb DNA size marker, PCR product from the full-length *hva1* sequence as a positive control, the PCR products from the produced cDNA from extracted RNA of three independent transgenic samples, and PCR product from the non-transformed potato (a negative control).