Construct name	Construct	5' fragment (pDONRP4-P1R - KanamycinR)	middle fragment (pDONR221 - KanamycinR)	3' fragment (in pDONRP2R-P3 - KanamycinR)	Destination vector (SpectinomycinR)	Reisitance in plants
P1Y	*UBQ10prom::CITRINE-1xFYVE(HRS)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xFYVEp3'*	*pB7m34GW*	Basta
P2Y	*UBQ10prom::CITRINE-1xPH(AtPH1)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xAtPH1p3'*	*pB7m34GW*	Basta
P3Y	*UBQ10prom::1xPX(p40)-CITRINE*	*UBQ10prom / pDONRP4-P1R*	*1xp40p221*	*mCITRINE / pDONRP2R-P3*	*pB7m34GW*	Basta
P4Y	*UBQ10prom::CITRINE-1xPH(OSH2)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xOSH2p3'*	*pB7m34GW*	Basta
P5Y	*UBQ10prom::CITRINE-1xPH(FAPP1)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xFAPP1p3'*	*pB7m34GW*	Basta
P6Y	*UBQ10prom::CITRINE-1xGRAM(Atg26)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xGRAMp3'*	*pB7m34GW*	Basta
P7Y	*UBQ10prom::CITRINE-1xPH(OSBP)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xOSBPp3'*	*pB7m34GW*	Basta
P8Y	*UBQ10prom::CITRINE-1xPHD(ING2)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*3xING2p3'*	*pB7m34GW*	Basta
P9Y	*UBQ10prom::1xPX(p47)-CITRINE*	*UBQ10prom / pDONRP4-P1R*	*1xp47p221*	*mCITRINE / pDONRP2R-P3*	*pB7m34GW*	Basta
P10Y	*UBQ10prom::CITRINE-1xPH(TAPP1)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xTAPP1p3'*	*pB7m34GW*	Basta
P11Y	*UBQ10prom::CITRINE-1xPH(TAPP2)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xTAPP2p3'*	*pB7m34GW*	Basta
P12Y	*UBQ10prom::1xENTH(Ent3p)-CITRINE*	*UBQ10prom / pDONRP4-P1R*	*1xEnt3p221*	*mCITRINE / pDONRP2R-P3*	*pB7m34GW*	Basta
P13Y	*UBQ10prom::1xENTH(Ent5p)-CITRINE*	*UBQ10prom / pDONRP4-P1R*	*1xEnt5p221*	*mCITRINE / pDONRP2R-P3*	*pB7m34GW*	Basta
P14Y	*UBQ10prom::CITRINE-1xPH(PLCd1)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xPLCp3'*	*pB7m34GW*	Basta
P15Y	*UBQ10prom::CITRINE-1xTUBBY-C(TUBBY)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*1xTUBBYp3'*	*pB7m34GW*	Basta
P16Y	*UBQ10prom::1xPH(AKT)-CITRINE*	*UBQ10prom / pDONRP4-P1R*	*1xAKTp221*	*mCITRINE / pDONRP2R-P3*	*pB7m34GW*	Basta
P17Y	*UBQ10prom::1xPH(BTK)-CITRINE*	*UBQ10prom / pDONRP4-P1R*	*1xBTKp221*	*mCITRINE / pDONRP2R-P3*	*pB7m34GW*	Basta
P18Y	*UBQ10prom::CITRINE-2xFYVE(HRS)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*2xFYVEp3'*	*pB7m34GW*	Basta
P19Y	*UBQ10prom::CITRINE-2xPH(AtPH1)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*2xAtPH1p3'*	*pB7m34GW*	Basta
P20Y	*UBQ10prom::CITRINE-2xPH(OSH2)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*2xOSH2p3'*	*pB7m34GW*	Basta
P21Y	*UBQ10prom::CITRINE-2xPH(FAPP1)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*2xFAPP1p3'*	*pB7m34GW*	Basta
P22Y	*UBQ10prom::CITRINE-2xGRAM(Atg26)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*2xGRAMp3'*	*pB7m34GW*	Basta
P23Y	*UBQ10prom::CITRINE-2xPH(OSBP)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*2xOSBPp3'*	*pB7m34GW*	Basta
P24Y	*UBQ10prom::CITRINE-2xPH(PLCd1)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*2xPLCp3'*	*pB7m34GW*	Basta
P25Y	*UBQ10prom::CITRINE-2xTUBBY-C(TUBBY)*	*UBQ10prom / pDONRP4-P1R*	*mCITRINEnoSTOP / pDONR221*	*2xTUBBYp3'*	*pB7m34GW*	Basta

Construct name	Construct	5' fragment (pDONRP4-P1R - KanamycinR)	middle fragment (pDONR221 - KanamycinR)	3' fragment (in pDONRP2R-P3 - KanamycinR)	Destination vector (SpectinomycinR)	Reisitance in plants
P1R	*UBQ10prom::2xCHERRY-1xFYVE(HRS)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*1xFYVEp3'*	*pH7m34GW*	Hygromycin
P3R	*UBQ10prom::1xPX(p40)-2xCHERRY*	*UBQ10prom / pDONRP4-P1R*	*1xp40p221*	*2xmCHERRY-4xMYC / pDONRP2R-P3*	*pH7m34GW*	Hygromycin
P5R	*UBQ10prom::2xCHERRY-1xPH(FAPP1)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*1xFAPP1p3'*	*pH7m34GW*	Hygromycin
P7R	*UBQ10prom::2xCHERRY-1xPH(OSBP)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*1xOSBPp3'*	*pH7m34GW*	Hygromycin
P14R	*UBQ10prom::2xCHERRY-1xPH(PLCd1)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*1xPLCp3'*	*pH7m34GW*	Hygromycin
P15R	*UBQ10prom::2xCHERRY-1xTUBBY-C(TUBBY)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*1xTUBBYp3'*	*pH7m34GW*	Hygromycin
P18R	*UBQ10prom::2xCHERRY-2xFYVE(HRS)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*2xFYVEp3'*	*pH7m34GW*	Hygromycin
P21R	*UBQ10prom::2xCHERRY-2xPH(FAPP1)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*2xFAPP1p3'*	*pH7m34GW*	Hygromycin
P23R	*UBQ10prom::2xCHERRY-2xPH(OSBP)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*2xOSBPp3'*	*pH7m34GW*	Hygromycin
P24R	*UBQ10prom::2xCHERRY-2xPH(PLCd1)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*2xPLCp3'*	*pH7m34GW*	Hygromycin
P25R	*UBQ10prom::2xCHERRY-2xTUBBY-C(TUBBY)*	*UBQ10prom / pDONRP4-P1R*	*2xmCHERRY-1xMYCnoSTOP / pDONR221*	*2xTUBBYp3'*	*pH7m34GW*	Hygromycin

Construct name	Construct	5' fragment (pDONRP4-P1R - KanamycinR)	middle fragment (pDONR221 - KanamycinR)	3' fragment (in pDONRP2R-P3 - KanamycinR)	Destination vector (SpectinomycinR)	Reisitance in plants
P1C	*UBQ10prom::2xCyPet-1xFYVE(HRS)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*1xFYVEp3'*	*pK7m34GW*	Kanamycin
P3C	*UBQ10prom::1xPX(p40)-2xCyPet*	*UBQ10prom / pDONRP4-P1R*	*1xp40p221*	*2xCyPet-3xFLAG-6xHIS / pDONRP2R-P3*	*pK7m34GW*	Kanamycin
P5C	*UBQ10prom::2xCyPet-1xPH(FAPP1)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*1xFAPP1p3'*	*pK7m34GW*	Kanamycin
P7C	*UBQ10prom::2xCyPet-1xPH(OSBP)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*1xOSBPp3'*	*pK7m34GW*	Kanamycin
P14C	*UBQ10prom::2xCyPet-1xPH(PLCd1)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*1xPLCp3'*	*pK7m34GW*	Kanamycin
P15C	*UBQ10prom::2xCyPet-1xTUBBY-C(TUBBY)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*1xTUBBYp3'*	*pK7m34GW*	Kanamycin
P18C	*UBQ10prom::2xCyPet-2xFYVE(HRS)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*2xFYVEp3'*	*pK7m34GW*	Kanamycin
P21C	*UBQ10prom::2xCyPet-2xPH(FAPP1)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*2xFAPP1p3'*	*pK7m34GW*	Kanamycin
P23C	*UBQ10prom::2xCyPet-2xPH(OSBP)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*2xOSBPp3'*	*pK7m34GW*	Kanamycin
P24C	*UBQ10prom::2xCyPet-2xPH(PLCd1)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*2xPLCp3'*	*pK7m34GW*	Kanamycin
P25C	*UBQ10prom::2xCyPet-2xTUBBY-C(TUBBY)*	*UBQ10prom / pDONRP4-P1R*	*2xCyPet-3xFLAG-6xHISnoSTOP / pDONR221*	*2xTUBBYp3'*	*pK7m34GW*	Kanamycin

Table S4. Table recapitulating all the transgenic lines included in the PIPline marker set.