Silver-enhanced lateral flow immunoassay for highly-sensitive detection of potato leafroll virus

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Spectral studies of GNPs and their conjugate

Figure S1. Adsorption spectra for GNPs (1) and GNP-antibody conjugate (2)
Silver enhancement of LFIA for PLRV assay in buffer

Figure S2. Results of LFIA for PLRV in buffer: (A) Appearance of the test strips after convenient LFIA (CZ, control zone; TZ, test zone). The number above the strip denotes PLRV concentration (ng/mL). (B) Appearance of the test strips after LFIA with silver enhancement. The notations are the same as in (A). (C) Color intensity of the test zone depending on PLRV concentration. Curves 1 and 2 correspond to the test strips presented at (A) and (B), respectively.
## Analysis of infected potato leaves

**Table S1.** Results of ELISA and LFIAs for dilutions of leaf extracts of infected potatoes

| Sample   | Dilution | ELISA | Convenient LFIA | LFIA with silver enhancement |
|----------|----------|-------|-----------------|------------------------------|
| Extract 1 | 1:50     | +     | +               | +                            |
|          | 1:500    | +     | +               | +                            |
|          | 1:2,500  | −     | +/−             | +                            |
|          | 1:4,000  | −     | −               | +                            |
| Extract 2 | 1:50     | +     | +               | +                            |
|          | 1:500    | +     | +               | +                            |
|          | 1:2,500  | −     | +/−             | +                            |
|          | 1:4,000  | −     | −               | +                            |
| Extract 3 | 1:50     | +     | +               | +                            |
|          | 1:500    | +     | +               | +                            |
|          | 1:2,500  | −     | +/−             | +                            |
|          | 1:4,000  | −     | −               | +                            |