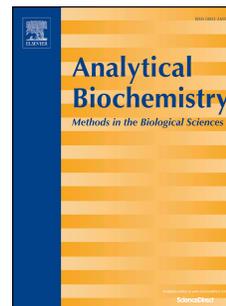


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**Rapid detection of potyviruses from crude plant extracts**

Gonçalo Silva<sup>a\*</sup>, Joshua Oyekanmi<sup>b</sup>, Chukwuemeka K. Nkere<sup>b,c</sup>, Moritz Bömer<sup>a</sup>, P. Lava Kumar<sup>b</sup>, Susan E. Seal<sup>a</sup>

<sup>a</sup> Natural Resources Institute, University of Greenwich, Chatham Maritime, Kent ME4 4TB, UK

<sup>b</sup> International Institute of Tropical Agriculture (IITA), Oyo Road, PMB 5320, Ibadan, Nigeria

<sup>c</sup> National Root Crops Research Institute, Km 8 Ikot Ekpene Road, PMB 7006, Umudike, Nigeria

\* Corresponding author

Tel.: +44 (0) 1634 883158

E-mail address: g.silva@gre.ac.uk

**Abstract (200 words)**

Potyviruses (genus *Potyvirus*; family *Potyviridae*) are widely distributed and represent one of the most economically important genera of plant viruses. Therefore, their accurate detection is a key factor in developing efficient control strategies. However, this can sometimes be problematic particularly in plant species containing high amounts of polysaccharides and polyphenols such as yam (*Dioscorea* spp.). Here, we report the development of a reliable, rapid and cost-effective detection method for the two most important potyviruses infecting yam based on reverse transcription-recombinase polymerase amplification (RT-RPA). The developed method, named 'Direct RT-RPA', detects each target virus directly from plant leaf extracts prepared with a simple and inexpensive extraction method avoiding laborious extraction of high-quality RNA. Direct RT-RPA enables the detection of virus-positive

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