

**RETURN BIDS TO:**
**RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des soumissions - TPSGC**  
**11 Laurier St./ 11 rue, Laurier Place du Portage, Phase III Core 0A1 / Noyau 0A1 Gatineau, Québec K1A 0S5 Bid Fax: (819) 997-9776**

**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

**Vendor/Firm Name and Address  
Raison sociale et adresse du fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**

Scientific, Medical and Photographic Division /  
Division de l'équipement scientifique, des produits photographiques et pharmaceutiques  
11 Laurier St./ 11 rue, Laurier  
6B1, Place du Portage  
Gatineau, Québec K1A 0S5

<b>Title - Sujet</b> <b>DYNAMIC LIGHT SCATTERING</b>	
<b>Solicitation No. - N° de l'invitation</b> 31184-119191/B	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> 31184-119191	<b>Date</b> 2012-02-20
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$PV-890-59277	
<b>File No. - N° de dossier</b> pv890.31184-119191	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2012-02-29</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Hennessey, Lisa	
<b>Telephone No. - N° de téléphone</b> (819) 956-9001 ( )	<b>FAX No. - N° de FAX</b> (819) 956-3814
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

Solicitation No. - N° de l'invitation 31184-119191/B	Amd. No. - N° de la modif. 001	Buyer ID - Id de l'acheteur pv890
Client Ref. No. - N° de réf. du client 31184-119191	File No. - N° du dossier pv89031184-119191	CCC No./N° CCC - FMS No/ N° VME

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**This amendment is raised to answer bidder questions.**

Q11. We do not use U-shaped capillary because this is known to have "wall effects"

The cell utilizes a 5cm long U-shaped capillary cell for accurate measurement based on known theory.

Most surfaces acquire a charge when immersed in aqueous solutions. That includes macroscopic surfaces such as cell walls. The charged wall surface attracts a population of oppositely charged ions. These ions stay in solution but stay close to the wall. When a field is applied, such as in a zeta potential measurement, these ions will move, dragging the solution with them. In this way a flow (called electro-osmotic flow) is set up. This principle is used, for example, in electroosmotic pumps. The flowing liquid causes the particles under study to move, and this "extra" particle motion distorts zeta potential measurement results.

In order to improve the zeta potential results, our equipment avoids the use of capillary cells with their accompanying flow effects.

A11. As long as it can be proven that the "cell" meets the other technical requirements listed in the specified point (disposable, can be connected to an Autotitrator, and is a flow cell) it would be deemed to be technically compliant.

Q12. We do not use APD as we use a green light source do basically not required for performance.

A high efficiency avalanche photodiode detector (APD) specially selected for dynamic light scattering applications must be employed by the DLS instrument.

The efficiency of a detector is a function of wavelength. Silicon based detectors such as APD's work best with red and near infrared light. As the wavelength of the light becomes shorter, these detectors become less effective. Conversely, PMT's are less efficient for red light and more efficient for green light. Since our equipment has a green light source, a PMT detector is the better choice. Therefore, that is what is used. Also, the green laser is standard in our equipment and offered only as an option on competing systems.

A12. We understand the claims of the supplier but without technical specifications, PMT model and response curves it is impossible to substantiate the supplier's claims. The instrument must, of course, meet all of the other specified technical requirements for particles size and zeta potential and have the specified accuracy with regards to NIST standards.