Sensors Technology (SST)

»ÃÐÇÑµÔ (Background)

»Ñ¨¨ØºÑ¹ÁÕà¤Ã×èÍ§Á×ÍáÅÐÇÔ¸Õ¡ÒÃËÅÒ¡ËÅÒÂª¹Ô´ ÊÓËÃÑº¡ÒÃÇÔà¤ÃÒÐËì¤Ø³ÀÒ¾áÅÐ»ÃÔÁÒ³ÊÒÃà¤ÁÔ¤ÑÅà«¹à«ÍÃì
ËÅÑ¡¡ÒÃÊÓ¤Ñ-¢Í§à¤ÁÔ¤ÑÅà«¹à«ÍÃìáÅÐäºâÍà«¹à«ÍÃì¤×Í¡ÒÃ·Ó»¯Ô¡ÔÃÔÂÒÍÂèÒ§ÇèÍ§äÇáÅÐ¨Óà¾ÒÐÃÐËÇèÒ§ÊÒÃà¤ÁÕ /
¡èÍãËéà¡Ô´ÊÑ--Ò³ áÅÐ¡ÒÃà»ÅÕèÂ¹á»Å§·ÕèµÃÇ¨ÇÑ´ä´é àªè¹ ¡ÃÐáÊä¿¿éÒ ÍÔÍÍ¹ ¤ÇÒÁÃéÍ¹ ËÃ×ÍÁÇÅ â´Â¢¹Ò´¢Í§ÊÑ--Ò³ÁÕ¤Ç

ËéÍ§»¯ÔºÑµÔ¡ÒÃÇÔ¨ÑÂ áÅÐ¾Ñ²¹Òà«¹à«ÍÃì·Ò§à¤ÁÕáÅÐªÕÇÀÒ¾ à»ç¹Ë¹èÇÂ§Ò¹Ë¹Öè§ã¹ R&D Cluster ÁËÒÇÔ·ÂÒÅÑÂà·¤
¨Ò¡¤³Ð·ÃÑ¾ÂÒ¡ÃªÕÇÀÒ¾áÅÐà·¤â¹âÅÂÕ áÅÐÊ¶ÒºÑ¹¾Ñ²¹ÒáÅÐ½Ö¡ÍºÃÁâÃ§§Ò¹µé¹áºº ÁËÒÇÔ·ÂÒÅÑÂà·¤â¹âÅÂÕ¾ÃÐ¨ÍÁà
ä´é·Ó¡ÒÃÇÔ¨ÑÂáÅÐ¾Ñ²¹ÒÇÔ¸Õ¡ÒÃ áÅÐà¤Ã×èÍ§Á×ÍÇÑ´·Ò§à¤ÁÕáÅÐªÕÇÀÒ¾à¾×èÍ»ÃÐâÂª¹ì·Ò§ÍØµÊÒËÒ¡ÃÃÁ ÍÒËÒÃ ÊÔè
¹Í¡¨Ò¡ÒÃÇÔ¨ÑÂáÅÐ¾Ñ²¹Òà¾×èÍ¹Óä»ÊÙè¼ÅÔµÀÑ³±ìáÅÐÇÔ¸Õ¡ÒÃ·ÕèÁÕ»ÃÐÊÔ·¸ÔÀÒ¾ Ë¹èÇÂ§Ò¹ä´éãËé¤ÇÒÁÊÓ¤Ñ-¡Ñº
·Ñé§¹Õéà¾×èÍàÊÃÔÁÊÃéÒ§¤ÇÒÁà¢éÒã¨àªÔ§ÇÔ·ÂÒ¡ÒÃ áÅÐ¹Óä»ÊÙèÍ§¤ì¤ÇÒÁÃÙé·ÕèÊÒÁÒÃ¶àª×èÍÁâÂ§¡Ñºà·¤â¹âÅÂÕ·
ÀÒÃ¡Ô¨ËÅÑ¡¹Í¡¨Ò¡àÊÃÔÁÊÃéÒ§Í§¤ì¤ÇÒÁÃÙéáÅÐ¼ÅÔµºÑ³±Ôµ·ÕèÁÕ¤ÇÒÁÃÙé¤ÇÒÁÊÒÁÒÃ¶áÅéÇ à»éÒËÁÒÂÊÓ¤Ñ-ÍÕ¡×
¡ÑºË¹èÇÂ§Ò¹ã¹ÀÒ¤ÍØµÊÒËÒ¡ÃÃÁ â´Â¡ÒÃ¶èÒÂ·Í´à·¤â¹âÅÂÕ áÅÐ¼ÅÔµÀÑ³±ìµé¹áººä»ÂÑ§Ë¹èÇÂ§Ò¹´Ñ§¡ÅèÒÇ à¾×èÍ¡ÒÃ¾Ñ²

ÇÑµ¶Ø»ÃÐÊ§¤ì (Aim)

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à¾×èÍÊÃéÒ§§Ò¹ÇÔ¨ÑÂáÅÐ¾Ñ²¹Òà«¹à«ÍÃìà¤ÁÕáÅÐªÕÇÀÒ¾ãËéá¢ç§á¡Ãè§ à»ç¹·ÕèÂÍÁÃÑºã¹ÃÐ´Ñº¹Ò¹ÒªÒµÔ

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à¾×èÍÊÃéÒ§¼ÅÔµÀÑ³±ìµé¹áºº áÅÐ¶èÒÂ·Í´à·¤â¹âÅÂÕÊÙèÀÒ¤ÍØµÊÒËÒ¡ÃÃÁàÁ×èÍÁÕ¤ÇÒÁ¾ÃéÍÁ

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¾Ñ²¹ÒºØ¤ÅÒ¡Ã·ÕèÁÕ¤ÇÒÁÃÙé¤ÇÒÁÊÒÁÒÃ¶à¾×èÍàÊÃÔÁÊÃéÒ§¤ÇÒÁà¢éÁá¢ç§ã¹¡ÒÃÇÔ¨ÑÂáÅÐ¾Ñ²¹Ò

§Ò¹ÇÔ¨ÑÂáÅÐ¾Ñ²¹Ò·Õè´Óà¹Ô¹¡ÒÃ

1. äºâÍà«¹à«ÍÃì

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à¤Ã×èÍ§µé¹áººáÅÐËÑÇÇÑ´¨ØÅÔ¹·ÃÕÂìÊÓËÃÑºµÃÇ¨ÇÑ´»ÃÔÁÒ³ºÕâÍ´

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äºâÍà«¹à«ÍÃìª¹Ô´¾ÔÁ¾ìÊ¡ÃÕ¹à¾×èÍÇÔà¤ÃÒÐËì»ÃÔÁÒ³¹éÓµÒÅã¹àÅ×Í´

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¡ÒÃµÃÇ¨ÇÑ´ E.coli â´Â´ÕàÍ¹àÍäºâÍà«¹à«ÍÃì

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¡ÒÃÇÔà¤ÃÒÐËì»ÃÔÁÒ³ÂÒ»ÃÒºÈÑµÃÙ¾×ªâ´ÂäºâÍà«¹à«ÍÃì·Ò§à¤ÁÕä¿¿éÒ

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¡ÒÃµÃÇ¨ÇÔà¤ÃÒÐËìàª×éÍ Salmonella sp.·Õè¤ÇÒÁäÇÊÙ§

2. ¡ÒÃ»ÃÑº»ÃØ§ÍÔàÅç¡â·Ã´ÊÓËÃÑº¡ÒÃÇÔà¤ÃÒÐËì·Ò§à¤ÁÕä¿¿éÒ

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¡ÒÃà¾ÔèÁÊÑ--Ò³ ¡ÒÃµÃÇ¨ÇÑ´ÊÒÃ»ÃÐ¡Íº¿Õ¹ÍÅ´éÇÂµÑÇ·ÓÅÐÅÒÂä¹âµÃàº¹«Õ¹à¤Å×Íº¤ÒÃìºÍ¹¹Òâ¹·Ù»Êì

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¡ÒÃÃÇÁ¡Ñ¹¢Í§Í¹ØÀÒ¤à§Ô¹ áÅÐ¤ÒÃìºÍ¹¹Òâ¹·Ù»ÊìÃÐ´Ñº¹Òâ¹àÁµÃ à¾×èÍ¡ÒÃµÃÇ¨ÇÑ´àªÔ§à¤ÁÕä¿¿éÒ

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à¤ÁÕä¿¿éÒáÅÐà¤ÁÕµÑÇàÃè§¢Í§â¤Ã§ÊÃéÒ§ÃÐ´Ñº¹Òâ¹ ·Õè»ÃÐ¡Íº´éÇÂ redox mediator áÅÐ¤ÒÃìºÍ¹¹Òâ¹·Ù»Êì à¾×èÍ¡ÒÃ»Ã

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¡ÒÃÈÖ¡ÉÒÊÁºÑµÔ·Ò§à¤ÁÕä¿¿éÒ¢Í§á¤»ä««Ô¹ áÅÐ¡ÒÃ»ÃÐÂØ¡µìãªéã¹àªÔ§à«¹à«ÍÃì

3. ¡ÒÃ¾Ñ²¹Òà·¤¹Ô¤¡ÒÃÇÔà¤ÃÒÐËì·Ò§à¤ÁÕä¿¿éÒ

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¡ÒÃÇÔà¤ÃÒÐËìàªÔ§ÀÒ¾áÅÐ¨Å¹ìÈÒÊµÃì¢Í§¡ÒÃà¡Ô´ÍÔàÅç¡â·Ã´¿ÒÇÅÔ§·ÕèÍ¹ØÀÒ¤¤ÐµÐÅÔÊµì¢¹Ò´¨ØÅÀÒ¤áÅÐ¹Òâ¹â´Â S

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¡ÒÃÇÔà¤ÃÒÐËì»ÃÔÁÒ³¹éÓµÒÅ«Ùâ¤ÃÊáÅÐ¿Õ¹ÍÅâ´Âà·¤¹Ô¤ Pulsed Electrochemical Detection

ºØ¤ÅÒ¡Ã

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ÃÈ.´Ã. ÇÕÃÐÈÑ¡´Ôì ÊØÃÐàÃ×Í§ªÑÂ

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´Ã.ÁÔ··ÃÒ¹ â«ÁÒ«Ñ¹´ÃÑÁ

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´Ã.¾Ã¾ÔÁÅ ÈÃÕ·Í§¤Ó

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´Ã.¾Ã·Ô¾Âì â¤éÇ¹ÄÁÔµÃ

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´Ã.ÊØ¡Ñ--Ò á«èàÍÕëÂÇ

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´Ã. ¾ÃÃÉÁ³±ì ÃÔ¨ÔÃÇ³Ôª

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´Ã. ÃØè§·ÔÇÒ ¾ÅÑ§ÊÑ¹µÔ¡ØÅ

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¹Ò§ÊÒÇ¨µØ¾Ã ¾Ò¹·Í§

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¹Ò§ÊÒÇ¡ÄÉ³¾Ã ª×è¹ÃÑ§ÊÔ¡ØÅ

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¹Ò§ÊÒÇÊÔÃÔÁÒÅÂì §ÒÁª¹Ð

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¹ÒÂÇªÔÃÒ ªÑÂÇÃ³ì

§Ò¹ºÃÔ¡ÒÃ

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ãËé¤Ó»ÃÖ¡ÉÒ·ÑèÇä»´éÒ¹à«¹à«ÍÃìà¤ÁÕáÅÐªÕÇÀÒ¾

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à¤Ã×èÍ§Á×ÍÇÔà¤ÃÒÐËì·Ò§à¤ÁÕä¿¿éÒ

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ÊÑÁÁ¹ÒáÅÐ½Ö¡ÍºÃÁ

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½Ö¡ÍºÃÁÃÐÂÐÊÑé¹ (2 ÊÑ»´ÒËì – 1 à´×Í¹)

¼Å§Ò¹à¼Âá¾Ãèã¹ÇÒÃÊÒÃÃÐ´Ñº¹Ò¹ÒªÒµÔ

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