Further, on adding graphene sheets to the prepared bioprobe the uorescence was recorded as switch o and a er addition of various concentrations of cTnI, again the uorescence recovered in photo-luminescence spectra. e sensor takes only 10 min with low detection limit of 0.192 pg/mL. Similarly, Shankar et al., proposed immobilized a 16-phosphonohexadecanoic acid self-assembled monolayer (SAM) onto a TiO_2 array to constitute a low-cost biosensor [44]. On this ultrasensitive platform, the detection of cTnI concentrations as low as 0.1 pg mL^{-1} was accomplished with the help of enzymatic ampli cation. e reported study takes over 2 h to complete the analysis. Similarly, another way to design a biosensor when a uorophore is close to the metal surface, its optical properties will signi cantly alter. Based on this metal quenching e ect, the detection sensitivity can be improved. Lee and Kang deposited gold onto the glass substrate, followed by immobilizing protein A, anti-cTnI, cTnI antigen, and uorescence labeled anti-cTnI, respectively [45]. Depending on the distance between the dye and the gold surface, the uorescent dye was not greatly quenched, but adsorption of dye led to the quenching of its uorescence. erefore, such enhanced uorescence was detectable about 7000 times lower in the detection limit compared to the traditional method. However, it is still a time-consuming procedure. Alkaline phosphatase (ALP) has been largely exploited for the uorescent based cTnI immunoassay, especially in commercial products and recently has explored the ALP chemiluminescence chemistry for the cTnI detection [25,46-48]. e combination of magnetic and uorescence strategy is promising for the quick and sensitive for cTnI detection. In both the cases, the investigation time is about 40 min which is better in comparison to the TiO_2 nano-array and the limit of detection for both can attain as low as 1 ng/mL.

peptide, the response was electrochemically generated. Additionally,

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Cardiac markers and their point-of-care testing for diagnosis of acute

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Development of a plasma panel test for detection of human myocardial proteins by capillary immunoassay.
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&DUGLDF VSHFL¿F LPPXQRHQ]\PRPHWULF DVVD\ RI WURSRQLQ , LQ WKH HDUO\ SKDVH of acute myocardial infarction.
&OLQ &KHP 39

'DYLHV (*DZDG 6KDKDEL 0 6KL 4: /DP 3 6W\ED * /DX $ +HHVFKHQ & 8VDWHJXL 0 -DFNRZVNL *
Analytical performance and clinical utility of a sensitive immunoassay for determination of human cardiac troponin I.
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7DODQWD 104

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An improved portable biosensing system based on enzymatic chemiluminescence and magnetic immunoassay for biological compound detection.
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&KDQGUDVHNDUDQ . 0F&RQQHOO - 3 %XUULWW 0) -DIIH $ 6
Survival in patients with primary systemic amyloidosis and raised serum cardiac troponins.
/DQFHW 361

'DVJXSWD $ &KRZ / : 'DWWD 3
(IIHFW RI HOHYDWHG FRQFHQWUDWLRQ RI DONDOLQH SKRVSKDWDVH RQ FDUGLDF WURSRQLQ I assays.
- &OLQ /DE $QDO 15

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Aptamers as therapeutics.
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Selection of DNA aptamers against human cardiac troponin I for colorimetric sensor based dot blot application.
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Sensitive electrogenerated chemiluminescence peptide-based biosensor for WKH GHWHUPLQDWLRQ RI WURSRQLQ , ZLWK JROG ...
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=KRX) /X0 : %LDQ = 3 =KDQJ - 5 =KX - -
(OHFWURFKHPLFDO ... LPPXQRVHQVRU IRU VLPXOWDQHRXV ... PDUNHUV EDVHG RQ ... SRO\ 'LPHWK\OVLOR[DQH ... PLFURÀXLGLF FKLS $ SURRI RI SULQFLSOH
&OLQ &KHP 56

3HUHLUD-... $ 5 3 ... 'DQFKHU ... 5 3