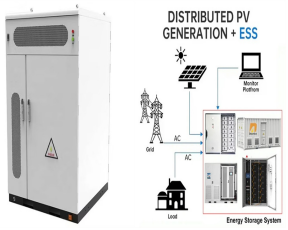
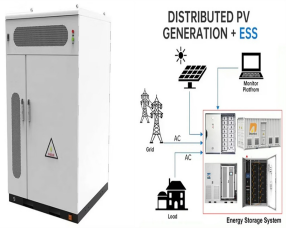
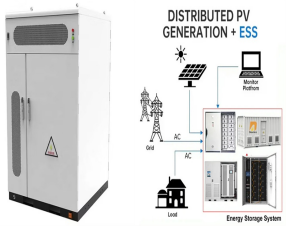
PHENOLIC HYDROXYL GROUPS CAN STORE ENERGY



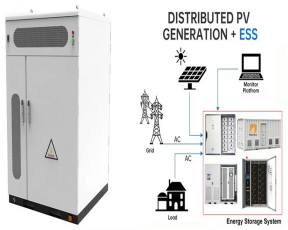
Do phenolic acids promote antioxidant activities? th -COOH. Methoxyl (-ocH3) and phenolic hydroxyl (-oH) groups can also promote the antioxidant activities of phenolic acids. These results relate to the O-H bond dissociation enthalpy of the phenolic hydroxyl group in phenolic acids and the alues of proton afinity and electron transfer enthalpy (ETE) involved in the electron donation ability o



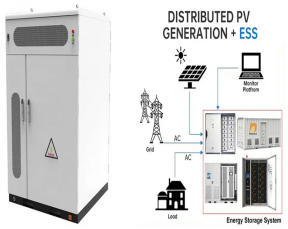
Do phenolic compounds scavenge free radicals? The number of hydroxyl groups and their position in relation to the carboxyl functional group influences the antioxidant activity of phenolic compounds (Balasundram et al., 2006). The abilities of the phenolic compounds to scavenge free radicals can be assessed for a range of assays.



Do dihydroxy phenolic acids have a higher antioxidant activity? In this study,dihydroxy phenolic acids (3,4-DH) had a higher antioxidant activitythan other phenolic acids with corresponding carboxylic acid groups in FRAP and DPPH assays apart from 4-H-3,5-DM-B/C/P. In general,both phenolic hydroxyl and methoxy groups significantly enhance the antioxidant activity of phenolic acids.



Are phenolic hydroxyls related to antioxidant activity? is phenolic hydroxyl,so the num-ber and position of phenolic hydroxyls are directly relatedto their antioxidant activity9. M



Which group promotes antioxidant activities of phenolic acids? Based on the same substituents on the benzene ring,-CH 2 COOH and -CHa??=a??CHCOOH can enhance the antioxidant activities of phenolic acids,compared with -COOH. Methoxyl (-OCH 3) and phenolic hydroxyl(-OH) groups can also promote the antioxidant activities of phenolic acids.

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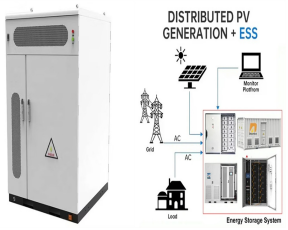
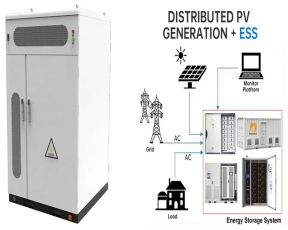


What are natural phenolic antioxidants? Natural phenolic antioxidants are compounds containing hydroxyl groups. According to a study by Spiegel et al.,simple natural phenols with more than one hydroxyl group in the ortho position of the aromatic ring were the most active as antioxidants.



Preferential binding properties of carboxyl and hydroxyl groups with aluminium salts for humic acid removal. Author links open overlay panel Jina Song a b, Xin Jin b (3,4 a?|

The results of nearly complete destruction of carboxyl and methoxyl groups at 320 ?C but only 44% phenolic hydroxyl groups destroying at 360 ?C for 60 min show that the a?|

Phenolic hydroxyl group plays a key role in the capacity of scavenging free radicals, the number and position of hydroxyl groups and other groups are the main influencing factors, a?|

Methoxyl (-OCH3) and phenolic hydroxyl (-OH) groups can also promote the antioxidant activities of phenolic acids. These results relate to the O-H bond dissociation enthalpy of the phenolic hydroxyl group in phenolic acids a?|

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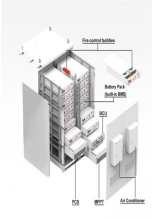


Polyhydroxylated natural phenolic compounds, especially those with low molecular weights, are characterized by their ability to eliminate free radicals as they act as strong antioxidants. The various types of phenolic a?|


According to our research, the number and position of hydroxyl groups in aromatic rings, as well as the delocalization of electron charge and conjugated double bonds, have a major impact on the antioxidant a?|


Moreover, because phenolic hydroxyl groups are electron donor groups they can enhance the antioxidant activity of other phenolic hydroxyl 23. In this study, dihydroxy phenolic a?|


Meanwhile, the reductive properties of phenolic hydroxyl groups can also inhibit Sn 2+ oxidation [49]. This passivation of multiple defects and the inhibition of Sn 2+ oxidation are a?|


Phenolics are able to act as antioxidants in a number of ways. Phenolic hydroxyl groups are good hydrogen donors: hydrogen-donating antioxidants can react with reactive oxygen and reactive nitrogen species [5, 6, 7, 8, 9, 10, 11] in a a?|